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ABSTRACT

This guide is the standard reference work for recognizing learning acquired by military personnel for conversion to academic credit in degree work at colleges and universities. This volume contains recommendations for formal courses offered by the Navy in 1990 and later years. Fourteen sections provide the following information: (1) how to find and use Navy course exhibits; (2) sample course exhibit; (3) how to find and use Navy rating exhibits; (4) sample Navy rating exhibit; (5) how to find and use Navy warrant officer and limited duty officer exhibits; (6) sample Navy warrant officer and limited duty officer exhibit; (7) how to find and use Navy enlisted classification (NEC) exhibits; (8) sample Navy enlisted classification exhibit; (9) questions and answers; (10) course exhibits; (11) Navy enlisted rating exhibits; (12) Navy limited duty officer exhibits; (13) Navy warrant officer exhibits; and(14) Navy enlisted classification (NEC) exhibits. Each course exhibit includes some or all of the following: course number, title, location, length, dates, learning outcomes, instruction, occupational group, description, career pattern, related occupations, and credit recommendation. The guide also contains seven appendixes that cover the evaluation systems, sample military records, occupation title index, keyword index, course number index, request for course recommendation form, and request for Navy general rate, rating, warrant officer, and limited duty officer exhibits form. (KC)

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The 1998 GUIDE to the EVALUATION of EDUCATIONAL EXPERIENCES in the ARMED SERVICES

AMERICAN COUNCIL ON EDUCATION One Dupont Circle • Washington, D. C. 20036-1193

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The
1998
GUIDE to the EVALUATION of EDUCATIONAL EXPERIENCES in the ARMED SERVICES

AMERICAN COUNCIL ON EDUCATION One Dupont Circle Washington, D. C. 20036-1193

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Foreword

For more than a half century the *Guide to the Evaluation of Educational Experiences in the Armed Services* has been the standard reference work for recognizing learning acquired in military life. Since 1942, the American Council on Education has worked cooperatively with the U.S. Department of Defense, the armed services and the U.S. Coast Guard in helping hundreds of thousands of individuals earn academic credit for learning achieved while serving their country.

The ACE *Guide* evaluation system enables students to apply their experience, training, and expertise to their degree work at colleges and universities. While this is a sound educational practice, it is also an efficient use of financial and educational resources.

Special recognition must be paid to the many faculty members who have served as subject-matter experts on ACE evaluation teams and to their institutions for their wholehearted cooperation in this effort. For all this generous support and assistance, we are deeply indebted.

We are pleased to commend this *Guide* to you as you work with servicemembers and veterans in helping them to integrate ACE *Guide* recommended credit into their degree programs.

Stanley O. Ikenberry
President
American Council on Education

How to Find and Use Navy Course Exhibits

This volume contains recommendations for formal courses offered by the Navy with exhibit dates of 1/90 and later.

The instructions that follow provide a step-by-step procedure for finding and using the exhibits and recommendations. Readers unfamiliar with ACE evaluation procedures should read Appendix A.

Step 1

Have the applicant complete a Request for Course Recommendation form.

A *Request for Course Recommendation* form appears at the back of this volume. It is to be reproduced and should always be filled out by the applicant, using the information provided on official and personal records, as well as the applicant's own knowledge of the service course. *Applicants should not refer to the Guide while completing the form.*

Step 2

Verify course completion from military records.

It is the responsibility of the school official to verify course completion. The following military records are used to verify successful completion of course requirements:

- DD Form 295, *Application for the Evaluation of Learning Experiences During Military Service*. This is available to active-duty service personnel and Reservists from military education officers. (Form must be certified by an authorized commissioned officer or his/her designee in order to be official.)
- DD Form 214, *Armed Forces of the United States Report of Transfer or Discharge*. If the veteran does not have a copy, one can be obtained, together with other in-service training records, from the National Personnel Records Center (Military Personnel Records), 9700 Page Avenue, St. Louis, MO 63132-5100. The veteran may request service records by submitting U.S. Government Standard Form 180, which is available from a state veterans affairs office, the Veterans Administration, the National Personnel Records Center, or reproduced from this volume (Appendix B).
- *Course Completion Certificates*. These may be used to complement other records or when service courses are not recorded on official records.

Refer to the Sample Course Exhibit when reading the following steps.

Step 3

Find the course exhibit by identifying the American Council on Education (ACE) ID number in the Course Number Index or the Keyword Index.

- *Course Number Index*. All available military course numbers are listed in the Course Number Index in alphanumeric sequence. If the applicant's military course number cannot be located in the Course Number Index, search for the course title in the Keyword Index.
- *Keyword Index*. Identify all possible keywords within a course title. For example, the keywords in the title "Digital, Analog, and Hybrid Computer Fundamentals" are *Digital, Analog, Hybrid,* and *Computer*. Find one of those keywords in the Keyword Index, and search the listing under the keyword for the course title. If the title cannot be found under one keyword, search all other possible keywords.
- *Identify ACE ID number*. When the title or military course number has been located, note the corresponding ACE ID number. This number refers to the course exhibit's location in the *Guide*. The two-letter prefix refers to the specific service, i.e., NV = Navy. ACE ID numbers are presented in numeric sequence.

Step 4

Match the course-identifying information with the corresponding data in the course exhibit.

First determine that the dates of attendance fall within the dates in the exhibit, and select the appropriate version. Other course-identifying information includes the official military title, military course number, length of course, dates of attendance, location, etc. This information is provided by the applicant on the *Request for Course Recommendation* form. It is important to match all items.

Step 5

Read the course description.

Consideration should be given not only to the amount of credit and to the subject area, but also to the learning outcomes, or course objectives, and instruction cited in the course exhibit. These portions of the exhibit outline the course content and scope and also provide essential information about the nature of the course. This information will help you determine the appropriate placement of credit for each individual student within the requirements and programs at your institution.

Step 6

Award credit as appropriate.

Users are free to modify the credit recommendations in accordance with institutional policy and the educational goals of each applicant.

Step 7

If assistance is required, contact the American Council on Education.

Whenever problems arise and assistance is needed, the school official should submit a properly completed *Request for Course Recommendation* form to:

Military Evaluations Program
American Council on Eduction
One Dupont Circle NW, Suite 250
Washington, DC 20036-1193
(202) 939-9470
FAX (202) 775-8578
E-mail: mileval@ace.nche.edu

For course exhibits before 1/90, see the *1954–1989 Guide to the Evaluation of Educational Experiences in the Armed Services.*

Sample Course Exhibit

NV-2202-0165

RECRUIT TRAINING
(Basic Training)

Course Number: *Version 1:* X777-7770. *Version 2:* X-777-7770.

Location: *Version 1:* Recruit Training Command, Great Lakes, IL. *Version 2:* Recruit Training Command, San Diego, CA; Recruit Training Command, Orlando, FL; Recruit Training Command, Great Lakes, IL.

Length: *Version 1:* 8 weeks (169 hours). *Version 2:* 8-9 weeks (367-480 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 10/91–12/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the graduated recruit will demonstrate knowledge of general military and Navy protocol, first aid, personal health and safety; will demonstrate basic swimming, firefighting and damage control, seamanship, and water survival skills; and will meet prescribed standards for physical fitness. *Version 2:* Before 10/91 see NV-2202-0014. Upon completion of the course, the graduated recruit will demonstrate knowledge of military and Navy protocol, first aid, personal health and safety; will demonstrate basic swimming, firefighting, and water survival skills; and will meet prescribed standards for physical fitness.

Instruction: *Version 1:* Course includes lectures, demonstration, and performance exercises in military protocol and drill, seamanship, firefighting, first aid, safety, health, and physical conditioning. *Version 2:* Course includes lectures, demonstration, and exercises in military protocol and drill, seamanship, firefighting, first aid, safety, health, and physical conditioning.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in personal fitness/conditioning, 1 in personal/community health, and 1 in first aid and safety (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in personal fitness/conditioning, 1 in personal/community health, and 1 in first aid and safety (3/92).

ID Number. An identification number assigned by ACE to identify each course.

Title. Version 1 (if applicable) is the more recent. If course has only one version, version number is omitted throughout exhibit.

Military Course Number. The number assigned to the course by the military. Listed by version, if appropriate.

Location. By version. The service school, military installation, state.

Length. The length of the course in weeks, with contact hours in parentheses. Listed by version.

Exhibit Dates. Listed by version. Training start date on materials evaluated and, if applicable, the date the training was eliminated. "Present" denotes publication cut-off for this edition of the Guide (4/98). The earliest start date in this edition is 1/90.

Learning Outcome. Competencies students acquire during the course. Older courses have *Objectives.*

Instruction. Description of instruction, including teaching methods, facilities, equipment, major subject areas covered.

Credit Recommendation. By version. Recommended in four categories: vocational certificate, lower-division baccalaureate/associate degree, upper division baccalaureate, and graduate. Expressed in semester hours. (See Appendix A for detailed explanation of credit categories.)

Evaluation Date. Date when the credit recommendation was established. Month and year are given in parentheses following each recommendation.

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How to Find and Use Navy Rating Exhibits

This volume contains exhibits for Navy enlisted general rates and ratings with exhibit dates of 1/90 and later.

The instructions that follow provide a step-by-step procedure for finding and using Navy general rates and ratings exhibits and recommendations. Readers unfamiliar with how the Navy enlisted system is structured, and how occupational proficiency is demonstrated should read Appendix A.

Step 1

Have the applicant submit official documentation.

- NAVPERS 1070/604, *Navy Occupation/Training and Awards History.*, Navy men and women sometimes refer to this form as "page 4" of the service record. Item 1 lists the sailor's Navy Enlisted Classification (NEC) codes (primary code and secondary code) and the effective date of the NEC. Item 8 contains the general rate or rating from which advanced or changed, the new general rate or rating, and the effective date of the advancement or change.
- DD Form 295, *Application for the Evaluation of Learning Experiences During Military Service.* It has a section entitled Military Occupational History. A person still in active or reserve service may request that a DD Form 295 be completed by designated personnel and certified by the personnel officer at the activity maintaining custody of the person's military records.
- DD Form 214, *Armed Forces of the United States Report of Transfer or Discharge*, is also acceptable for documentation. However, it does not contain the occupational history, which you may need.

Navy records must be requested by the individual. Records can be obtained as follows:

Active-duty Navy men and women. Either the Navy unit to which they are assigned or the activity maintaining custody of their military records.

Navy Reservist (nondrilling) or retired personnel. The Naval Reserve Personnel Center (Code 41), 4400 Dauphine Street, New Orleans, LA 70149.

Navy Veteran. The originals of the *Navy Occupation/Training and Awards History* form and the DD Form 214 are given to the veteran at time of discharge. If the veteran does not have them, duplicate copies may be obtained from National Personnel Records Center (Military Personnel Records), 9700 Page Avenue, St. Louis, MO 63132-5100. The veteran may request service records by submitting U.S. Government Standard Form 180, which can be obtained from a state's veterans affairs office, the Veterans Administration, or the National Personnel Records Center.

Step 2

Verify each occupational specialty the person has successfully held.

Eligibility for the credit recommendation for enlisted general rates and ratings is easily determined. Advancement means that the person is automatically eligible for the general rate or rating recommendation; that is, to be advanced, the person had to demonstrate occupational proficiency by meeting all the requirements for advancement, including passing written examinations and performance tests.

If the letters PNA (passed-but-not-advanced) appear on the DD Form 295, credit should be awarded for the higher rank. Passed-but-not-advanced means that the person has passed the required written and performance examinations and is qualified for advancement. However, time in service, time in rate, and awards received also contribute to a person's total advancement score, which is the basis used in determining who is selected to fill existing openings in a given rate. In other words, PNA persons have demonstrated their occupational proficiency but were not advanced either because they had an insufficient number of points from sources other than examinations to compete successfully for the openings in a given rate, or because there were no openings for their particular rate.

For individuals in paygrade E-6, successful completion of a written examination is needed to progress to E-7. If an individual has not been promoted, check the Examination Profile Information sheet to determine whether the examination was passed. If so, the credit for E-7 should be granted. For paygrades E-7 and E-9, a written advancement examination is not required for promotion to E-8 and E-9. If the individual has been recommended for advancement by the commanding officer (recorded on NAVPERS 1070/609), the credit for the higher paygrade should be granted.

Find the information necessary for locating the correct exhibit(s): occupational designations and the date of advancement to each.

Step 3

Find the appropriate exhibit in the Guide.

The exhibit can be found when the designation is known. Each exhibit is assigned an ACE ID number that has three components. The first component in a Navy rating exhibit is NER. This identifies the exhibit as one that pertains to Navy enlisted general rates and ratings. The second component consists of the general rate or rating designation, e.g., SN, QM, or AME. The third component, a three-digit, sequentially assigned number, e.g., 001, uniquely identifies the exhibit. The exhibit ID numbers have either eight or nine characters, depending on the rating designation, e.g., NER-QM-002 and NER-AME-001.

If you know the title of an occupational specialty, the exhibit ID number can be found by referring to the Occupational Title Index.

There may be more than one exhibit for some designators. Each time there is a new recommendation, there is a new exhibit. The oldest exhibit for a rating, the first to be evaluated, is assigned -001 as the last three characters. The last exhibit for a rating, the exhibit assigned the highest number, is the most recent.

When the time period that a person held a rating skill level spans more than one exhibit for the rating, exercise your own judgment in deciding which exhibit is more appropriate. If the credit granted in the earlier exhibit does not appear in a later exhibit, the credit that was dropped may be awarded. This is based on the fact that since that skill was required during the earlier time frame, it should not be taken away from the individual just because it is no longer a requirement of that rating.

Step 4

Read the entire exhibit.

Before applying a given recommendation, read the entire exhibit. Each item in the exhibit has been prepared to help you interpret the credit recommendations. (See the sample exhibit.)

The descriptions, which are similar to learning outcome statements of postsecondary courses and programs of study, provide essential information about the learning required for proficiency in the occupation. Comparing the description with a description of the course or program of study that the student will pursue will help you

- determine how much of the recommended credit applies to the course or program of study at your institution;
- identify additional areas of possible credit;
- resolve problems with duplication of credit when the applicant has applied for credit for more than one military learning experience; and
- place the student at the appropriate point in the course sequence or program of study.

Step 5

Award credit as appropriate.

The credit recommendations are advisory. They are intended to assist in placing Navy active-duty personnel and veterans in postsecondary programs of study and jobs. The recommendations may be modified.

When an applicant has applied for credit for more than one military learning experience, you may find that you will have to reduce the total amount of credit recommended to avoid granting duplicate credit.

Step 6

If assistance is required, contact the American Council on Education.

Whenever problems arise and assistance is needed, the school official should submit a properly completed *Request for Navy General Rate, Rating, Warrant Officer, and Limited Duty Officer Exhibit* form to:

Military Evaluations Program
American Council on Education
One Dupont Circle NW, Suite 250
Washington, DC 20036-1193
(202) 939-9470
FAX(202) 775-8578
E-mail: mileval@ace.nche.edu

For rating exhibits before 1/90, see the *1954–1989 Guide to the Evaluation of Educational Experiences in the Armed Services.*

Sample Navy Rating Exhibit

ID Number. An identification number assigned by ACE to identify each exhibit.

NER-AG-002

AEROGRAPHER'S MATE

Title. The official Navy title of the general rate or rating during the period of the exhibit dates.

AG3
AG2
AG1
AGC
AGCS
AGCM

General Rate/Rating Designation. The official Navy system of identifying occupations and their levels; listed in ascending order according to rate.

Exhibit Dates: 1/91–Present.

Exhibit Dates. Start and end dates by month and year. The term "Present" indicates that the exhibit is current as of 4/98. "Pending evaluation" means that the general rate or rating is scheduled to be evaluated. The earliest start date in this edition is 1/90.

Occupational Field: 23 (Meteorology)

Occupational Field. Two-digit number and title designating a group of related ratings.

Career Pattern

AN: Airman (E-3). *AG3:* Aerographer's Mate, Third Class (E-4). *AG2:* Aerographer's Mate, Second Class (E-5). *AG1:* Aerographer's Mate, First Class (E-6). *AGC:* Chief Aerographer's Mate (E-7). *AGCS:* Senior Chief Aerographer's Mate (E-8). *AGCM:* Master Chief Aerographer's Mate (E-9).

Career Pattern. Path of advancement. Shows prerequisite general rate and subsequent progression in a rating; the designation is provided for each rate, followed by the title and paygrade (in parentheses).

Description

Summary: Observes, collects, records, and analyzes meteorological and oceanographic data; computers are used whenever applicable; makes visual and instrumental observations of weather and sea conditions; conducts briefings. *AG3:* Identifies the types .... *AG2:* Able to perform the duties required for AG3; checks surface observations for accuracy prior to transmission.... *AG1:* Able to perform the duties required for AG2; prepares short-range (up to 24 hours) environmental forecasts; identifies and .... *AGC:* Able to perform the duties required for AG1; interprets ocean thermal structure and factors affecting .... *AGCS:* Able to perform the duties required for AGC; evaluates recent meteorological and .... *AGCM:* Able to perform the duties required for AGCS; prepares statistical analyses of ....

Description. Summary applying to all rates and a separate description of the skills, competencies, and knowledge required for proficiency in each rate.

Recommendation. By rate. Only the recommendation for the *highest* rate held should be used; the recommendations should *not* be added.

Educational credit is expressed in semester hours and recommended in four categories: vocational certificate, lower-division baccalaureate/associate degree, upper-division baccalaureate, and graduate degree. (See Appendix A for category definitions.)

Recommendation, AG3

In the lower-division baccalaureate/associate degree category, 2 semester hours in meteorology, 2 in meteorology laboratory, and 3 in computer familiarization (3/91).

Date of Evaluation. Date when recommendation was established. Month and year are given. Appears in parentheses following the recommendation for each rate.

Recommendation, AG2

In the lower-division baccalaureate....

Recommendation, AG1

In the lower-division baccalaureate....

Recommendation, AGC

In the lower-division baccalaureate....

Recommendation, AGCS

In the lower-division baccalaureate....

Recommendation, AGCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 3 in oceanography, 3 in personnel supervision, 3 in computer familiarization, and 3 in computer applications. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics, 2 in measurement and data systems, 3 in weather station management, 3 in organizational management, and 3 in management problems (3/91).

How to Find and Use Navy Warrant Officer and Limited Duty Officer Exhibits

This volume contains exhibits for Navy warrant officers and limited duty officers with exhibit dates of 1/90 and later.

The instructions that follow provide a step-by-step procedure for finding and using exhibits for Navy warrant officer and limited duty officer specialties and recommendations. Readers unfamiliar with the Navy officer system, how it is structured, and how occupational proficiency is demonstrated should read Appendix A.

Step 1

Have the applicant submit official documentation.

- NAVPERS 601-4, *Navy Occupation/Training and Awards History.* Check for the officer designation. Section 5 lists training courses completed and NECs held. Fitness Reports, objective appraisals of performance by the commanding officer, should also be used.
- DD Form 295, *Application for the Evaluation of Learning Experiences During Military Service.* It has a section entitled *Military Occupational History.* A person still in active or Reserve service may request that a DD Form 295 be completed by designated personnel and certified by the personnel officer at the activity maintaining custody of the person's military records.
- DD Form 214, *Armed Forces of the United States Report of Transfer or Discharge*, is also acceptable for documentation. However, it does not contain the occupational history, which you may need.

Navy records must be requested by the individual. Records can be obtained as follows:

Active-duty Navy men and women. Either the Navy unit to which they are assigned or the activity maintaining custody of their military records.

Navy Reservist (nondrilling) or retired personnel. The Naval Reserve Personnel Center (Code 41), 4400 Dauphine Street, New Orleans, LA 70149.

Navy Veteran. The originals of the Navy Occupation/Training and Awards History form and the DD Form 214 are given to the veteran at time of discharge. If the veteran does not have them, duplicate copies may be obtained from National Personnel Records Center (Military Personnel Records), 9700 Page Avenue, St. Louis, MO 63132-5100. The veteran may request service records by submitting U.S. Government Standard Form 180, which can be obtained from a state's veterans affairs office, the Veterans Administration, or the National Personnel Records Center.

Step 2

Verify each occupational specialty the person has successfully held.

- Warrant officers and limited duty officers have normally progressed through the enlisted ranks and are technical specialists in their fields. Determine eligibility for the credit recommendation by consulting the individual's Fitness Report or NAVPERS 601-4.
- Find the information necessary for locating the correct exhibit(s): occupational designations and the date of advancement to each.

Step 3

Find the appropriate exhibit in the Guide.

The exhibit can be found when the designation is known. Each exhibit is assigned an ACE ID number that has three components. The first component of a warrant officer exhibit is NWO, for limited duty officer, LDO. The second component consists of the four-digit designator, e.g., 641X, 720X. As with the enlisted exhibits, the third component is a three- digit number that uniquely identifies the exhibit. These exhibits have nine characters (NWO-720X-001, LDO-641X-001).

If you know the title of an occupational specialty, the exhibit ID number can be found by referring to the Occupational Title Index.

There may be more than one exhibit for some designators. Each time there is a new recommendation, there is a new exhibit. The oldest exhibit for a rating, the first to be evaluated, is assigned -001 as the last three characters. The last exhibit for a rating, the exhibit assigned the highest number, is the most recent.

Step 4

Read the entire exhibit.

Before applying a given recommendation, read the entire exhibit. Each item in the exhibit has been prepared to help you interpret the credit recommendations. (See the sample exhibit.)

The descriptions, which are similar to learning outcome statements of postsecondary courses and programs of study, provide essential information about the learning required for proficiency in the occupation. Comparing the description with a description of the course or program of study that the student will pursue will help you

- determine how much of the recommended credit applies to the course or program of study at your institution;
- identify additional areas of possible credit;

- resolve problems with duplication of credit, when the applicant has applied for credit for more than one military learning experience; and
- place the student at the appropriate point in the course sequence or program of study.

Step 5

Award credit as appropriate.

The credit recommendations are advisory. They are intended to assist in placing Navy active-duty personnel and veterans in postsecondary programs of study and jobs. The recommendations may be modified.

When an applicant has applied for credit for more than one military learning experience, you may find that you will have to reduce the total amount of credit recommended to avoid granting duplicate credit.

Step 6

If assistance is required, contact the American Council on Education.

Whenever problems arise and assistance is needed, the school official should submit a properly completed *Request for Navy General Rate, Rating, Warrant Officer, and Limited Duty Officer Exhibit* form to:

Military Evaluations Program
American Council on Education
One Dupont Circle NW, Suite 250
Washington, DC 20036-1193
(202) 939-9470
FAX (202) 775-8578
E-mail: mileval@ace.nche.edu

For exhibits before 1/90, see the *1954–1989 Guide to the Evaluation of Educational Experiences in the Armed Services.*

Sample Warrant Officer/Limited Duty Officer Exhibit

ID Number. An identification number assigned by ACE to identify each exhibit. The first three digits for warrant officers are "NWO" and for limited duty officers "LDO."

Exhibit Dates. Start and end dates by month and year. The term "Present" indicates that the exhibit is current as of 4/98. "Pending evaluation" means that an evaluation is scheduled. The earliest start date in this edition is 1/90.

Description. The skills, competencies, and knowledge required for proficiency in the officer specialty.

Recommendation. Educational credit is expressed in semester hours and recommended in four categories: vocational certificate, lower-division baccalaureate/associate degree, upper-division baccalaureate, and graduate degree.

NWO-744X-001

CRYPTOLOGIC TECHNICIAN
744X

Exhibit Dates: 1/90–Present.

Career Pattern

May have progressed to Cryptologic Technician Warrant Officer from Cryptologic Technician, Administrative (CTA); Cryptologic Technician, Interpretive (CTI); Cryptologic Technician, Maintenance (CTM); Cryptologic Technician, Communications (CTO); Cryptologic Technician, Collection (CTR); or Cryptologic Technician, Technical (CTT).

Description

Serves as an officer technical specialist in all phases of operations conducted by the Naval Security Group Command, including signals intelligence, signals security, and electronic warfare; responsible for administration, personnel support, electronic maintenance, communications, and technical research in support of the operating forces and the national cryptologic effort; provides overall technical supervision, in accordance with appropriate directives required in employing equipment and manpower resources; supervises the installation and maintenance of electrical, electromechanical, and electronic equipment and the conduct of communications, administrative, or communications security functions; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (2/86).

Title. The official Navy title during the period of the exhibit dates.

Designation. The official Navy system of identifying warrant officers and limited duty officers. The fourth digit, X, may be a number from 0-9.

Career Pattern. Shows the various possible career paths for the warrant officer or LDO. Titles and designators are provided.

Date of Evaluation. Date when recommendation was established. Month and year are given. Appears in parentheses following the recommendation for each occupation.

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How to Find and Use Navy Enlisted Classification (NEC) Exhibits

This volume contains recommendations for Navy Enlisted Classifications (NECs) with exhibit dates of 1/90 and later.

The instructions that follow provide a step-by-step procedure for finding and using NEC exhibits and recommendations.

An NEC, a four-digit code, identifies qualifications acquired in addition to skills required in a rating. The majority of NECs are narrow in scope and have not been evaluated. ACE has evaluated those NECs that require a full-time assignment. The individual must also maintain proficiency in a rating. A sailor is required to pass rating advancement examinations to qualify for promotion. Thus individuals are eligible to receive credit for both ratings and NECs.

Step 1

Have the applicant submit official documentation.

Several records may be used for NEC verification. A servicemember or veteran should submit to you one of the following forms:

- NAVPERS 1070/604, *Navy Occupation/Training Awards History*. See Section 1 for the NEC designator and the date it was awarded. This form is commonly referred to as "page 4" of the service record.
- NAVPERS 1616/24, *Enlisted Performance Evaluation Report*. See Section 54 for the NEC title and description of duties; Section 2 carries the rating designator, but the evaluation is based on performance in the NEC.
- NAVPERS 1070/613, Page 13, Administrative Remarks. Indicates the date of certification and the NEC title.
- Letter of Designation. Letter from commanding officer designating the NEC and/or position title.
- DD Form 295, *Application for the Evaluation of Learning Experiences During Military Service*. This is available to active-duty service personnel and Reservists from military education officers. (Form must be certified by an authorized commissioned officer or his/her designee in order to be official.)
- DD Form 214, *Armed Forces of the United States Report of Transfer or Discharge*. If the veteran does not have a copy, one can be obtained, together with other in-service training records, from the National Personnel Records Center (Military Personnel Records), 9700 Page Avenue, St. Louis, MO 63132-5100. The veteran may request service records by submitting U.S. Government Standard Form 180, which is available from a state veterans affairs office, the Veterans Administration, the National Personnel Records Center, or reproduced from this volume (Appendix B).

For sample copies of these forms, see Appendix B.

The NEC code consists of four digits following the individual's rating designator. For example, a code of EA-5501 indicates that the individual holds the rating of Engineering Aid (EA) and the NEC of Construction Inspector (5501).

Step 2

Verify each NEC the person has successfully held.

Eligibility for the credit recommendation for NECs is determined using the documentation in Step 1. The sailor is required to demonstrate the applicable skills before the NEC is awarded.

Step 3

Find the appropriate exhibit in the Guide.

The exhibit can be found when the designation is known. Each exhibit is assigned an ACE ID number that has three components. The first component is NEC. The second component is the four-digit designator, such as 2186. The third component, a three-digit sequentially assigned number, e. g., -001, uniquely identifies the exhibit. Thus an ACE exhibit number might be NEC-2186- 001. (See sample exhibit.)

When only the title of an NEC is known, refer to the Navy Enlisted Classification Index for the exhibit ID number.

Step 4

Read the entire exhibit.

Before applying a given recommendation, read the entire exhibit. Each item has been prepared to help you interpret the credit recommendations.

The descriptions, which are similar to learning outcome statements of postsecondary courses or programs of study, provide essential information about the learning required for proficiency in the NEC. Comparing the description with a description of the course or program of study that the student will pursue will help you

- determine how much of the recommended credit applies to the course or program of study at your institution;
- identify additional areas of credit;
- resolve problems with duplication of credit, when the ap-

plicant has applied for credit for more than one military learning experience; and

- place the student at the appropriate point in the course sequence or program of study.

Step 5

Award credit as appropriate.

The credit recommendations are advisory. They are intended to assist in placing Navy active-duty personnel and veterans in postsecondary programs of study. The recommendations may be modified.

If an applicant has applied for credit for more than one military learning experience, you may have to reduce the total amount of credit recommended to avoid granting duplicate credit.

Step 6

If assistance is required, contact the American Council on Education.

Whenever problems arise and assistance is needed, the school official should submit a properly completed *Request for NEC Exhibit* form to:

Military Evaluations Program
American Council on Education
One Dupont Circle NW, Suite 250
Washington, DC 20036-1193
(202) 939-9470
FAX (202) 775-8578
E-mail: mileval@ace.nche.edu

For NEC exhibits before 1/90, see the *1954–1989 Guide to the Evaluation of Educational Experiences in the Armed Services.*

Sample Navy Enlisted Classification (NEC) Exhibit

ID Number. An identification number designed by ACE to identify each NEC exhibit.

Exhibit Dates. Start and end dates by month and year. The term "Present" indicates that the exhibit is current as of 4/98. The earliest start date in this edition is 1/90.

Recommendation. Educational credit is expressed in semester hours and recommended in four categories: vocational certificate, lower-division baccalaureate/associate degree, upper-division baccalaureate, and graduate degree. (See Appendix A for category definitions .)

NEC-9506-001

CURRICULUM AND INSTRUCTIONAL STANDARDS SPECIALIST

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals holding NEC 9506 are in paygrades E-5 to E-9 and may hold any rating. The NEC may be awarded either by formal training or on-the-job training. Six months are usually required to attain a wide range of competency in all areas of the NEC. May have taken the Training Materials Development System (TMDS) Curriculum Developer course (A-012-0015).

Description

Develops group-paced instructional materials in accordance with Navy curriculum development standards and guidelines; advises subject-matter experts on development procedures and formatting; evaluates curriculum documents and instructional delivery procedures; performs instructional assessment, test construction, review and validation of course competencies, and consistency of format for review of existing courses or the design of new courses.

Recommendation

In the upper-division baccalaureate category, 2 semester hours for a practicum/field experience in curriculum design or development (3/92).

Title. The official Navy title of the NEC during the time period of the exhibit dates.

Career Pattern. Shows prerequisite skills and training necessary for the award of the NEC and advancement in it.

Description. The skills, competencies, and knowledge required for proficiency in the NEC.

Date of Evaluation. Date recommendation was established. Month and year are given. Appears in parentheses following the recommendation for each NEC.

Questions and Answers

This section is designed to answer questions that may arise about using the Guide and awarding credit.

1. I have several editions of the *Guide to the Evaluation of Educational Experiences in the Armed Services*. Do I need to keep all of these?

The *Guide to the Evaluation of Educational Experiences in the Armed Services* has been published biennially since 1974. Each edition replaces the previous edition, which should be discarded.

ACE has now published the *1954–1989 Guide*, which contains courses and occupations with exhibit dates of 1/54 through 12/89. The *1998 Guide* contains courses and occupations with exhibit dates of 1/90 and later.

Please retain the *1954-1989 Guide* as a permanent reference and use it with your current *Guide*.

2. Which *Guide* do I use if the course spans the years 1989-1990?

If the student began the course anytime in 1989, use the *1954-1989 Guide*. If records show the student began the course 1/90 or later, use the *1998 Guide*.

3. Where do I find course and occupation exhibits dated prior to 1954?

The Military Evaluations Program began evaluating military training and experience in 1940. For credit recommendations for courses offered before 1954, send a completed *Request for Course Recommendation* form (found in the back of this volume) to ACE. The earliest occupation evaluations date back only to the 1960's and are in the *1954–1989 Guide*.

4. What is the *Handbook to the Guide to the Evaluation of Educational Experiences in the Armed Services*?

The *Handbook to the Guide* provides credit recommendations for courses and occupations evaluated since the latest *Guide* was printed. The *Handbook* also includes information on examination evaluations, ACE, forms and instruction, and helpful hints. The *Handbook* is distributed to military education offices and civilian institutions three times between publication of the *Guides*.

5. Which learning experiences have been evaluated for the Navy?

Formal courses offered by the Navy are eligible to be evaluated. In addition, Navy general rates, ratings, and selected NECs (Navy Enlisted Classification) have been evaluated. Courses and occupations with start dates of 1/90 or later are in this volume.

6. An applicant at my institution has submitted a DD Form 214 with abbreviated course titles that I cannot decipher. The form does not contain enough information for me to find the courses in the *Guide*. What should I do?

Military records often provide insufficient information for civilian education officials to properly identify courses. Require students to complete the *Request for Course Recommendation* form found in the back of this volume. Applicants for credit should interpret the information on their records and present the data in readable form. You may also use course completion certificates and other training records to supplement information on the DD Forms 214 and 295. If you need help, submit the completed request form to ACE. *No abbreviations please.*

The submission of a *Request* form does *not initiate* an ACE evaluation. Evaluations are conducted in the field using teams of subject-matter specialists. They are not evaluated at the request of a student or institution.

The purpose of these forms is to locate an evaluation that may have been conducted after the *Guide* publication date or to locate an exhibit you might have missed in your own search.

Please do not to submit forms for courses or occupations already in the *Guide*.

7. Why aren't all military courses in the *Guide*?

The course evaluations conducted by ACE do not include all courses offered by the armed services. Many cannot be evaluated. It is the responsibility of each military school to provide ACE with materials for all new and all revised courses. In general, courses evaluated and published in the *Guide* are those offered on a full-time basis. After 1981, ACE began evaluating courses that are 45 academic contact hours in length. Prior to that time, courses evaluated were at least of two weeks duration; or, if less than two weeks in length, the courses had to include a minimum total of 60 contact hours of academic instruction. Before 1973, the minimum length requirement was three weeks or 90 contact hours. Another requirement for evaluation is that a course meet servicewide training requirements and be cited in the formal school listing for the service. This requirement generally excludes locally organized and command-level training programs, as well as courses offered on a one-time basis. Classified courses cannot be evaluated unless they are sanitized.

Keep in mind that the *Guide* is constantly updated. Courses evaluated after the publication date are printed in the *Handbook to the Guide to the Evaluation of Educational Experiences in the Armed Services*. If you cannot locate the exhibit in either publication, submit a completed *Request for Course Recommendation* form.

8. Are Navy correspondence courses evaluated?

The Navy, with few exceptions, has not established an ongoing proctored end-of-course examinations program, one of ACE's criteria for reviewing correspondence courses. Those evaluated are listed in the Keyword Index under *Correspondence* for easy identification.

9. What is the purpose of the *Request for Course Recommendation* form?

One purpose of the *Request for Course Recommendation* form is to obtain information about a course from the student, (verified by official records), based on personal knowledge or memory of the course. With this firsthand information, you may find the correct course exhibit in the *Guide*.

The form should be completed by the applicant and submitted to the institution official or military representative, who will then locate the appropriate course exhibit. If assistance is needed, the institution official or military counselor can send the request form to ACE.

ACE staff will use this information to search its extensive database and files for matching information. When students attempt to identify a course taken years ago by extracting current titles or course numbers from the *Guide*, they may in fact be identifying a similar course but not the one they actually completed. A form filled out by a student who copies information from the *Guide* cannot be used for research purposes because that information only duplicates published data. Do not ask the student to find course listings in the *Guide*. *Only accurate and verified information is to be submitted.*

While we can provide credit recommendations to applicants at their request, we encourage them to apply through their schools. We do not normally send a credit recommendation to a college at the request of a student applicant or a military counselor.

Remember that it is your responsibility to verify course completion; ACE has no access to individual records and does not verify course completions.

10. Why is so much information needed on the *Request for Course Recommendation* form?

You cannot be sure that you have identified the correct exhibit in the *Guide* unless all the information on the form matches the corresponding items in the course exhibit. The course title, course number, name and location of the service school, and length of the course shown on the form should be identical to the information in the exhibit. In addition, the date the student started the course must fall within the exhibit dates. All items must be identical if an accurate identification is to be made.

11. What do I do when the information on the *Request for Course Recommendation* form does not exactly match the information in the course exhibit?

Send the completed form to ACE. Do not give it to the student to submit. If just one item differs from that in the exhibit you have located (for example, length), circle the item to bring it to the attention of the research staff. Send *copies* of military records only if they provide useful additional information. If the staff cannot identify the course and supply a credit recommendations, you may still grant credit to the applicant by conducting your own assessment of the applicant's learning.

12. What is the significance of the date that appears after each credit recommendation?

That date represents the month and year the credit recommendation was established. Each time an evaluation is conducted, a date is provided to indicate when the course or occupation was last considered for a credit equivalency so that you can judge the currency of the credit recommended. This information is particularly useful in subject areas where state of the art is important in determining the applicability of credit. You can also use the evaluation date when your institution has established a statute of limitations for acceptance of transfer credit. The date is provided for your information; do not confuse the date with exhibit dates.

13. An applicant completed a course in 1991, but the *Guide* exhibit dates are 5/92 to present. Should I grant credit based on the *Guide*?

First, check the keyword or course number index to see if another exhibit is referenced. The exhibit dates indicate the time period for which ACE has information on the course. The course may have been offered for several years prior to the exhibit start date, but since the service branch did not submit information on the course during that time period, we cannot backdate the exhibit to cover it. If you can be reasonably sure, from other information provided by the applicant (length, course content description), that the course was the same or similar to the course listed in the *Guide*, then you may want to grant credit similar to the *Guide* recommendation. You may be able to grant credit based on a comparison of the applicant's information with the descriptive information in the *Guide*. ACE encourages you to conduct your own assessment of courses for which no credit recommendation is available. For older courses, ACE may be able to provide you with military formal school catalog course descriptions for periods of time outside the exhibit dates. This should help you determine whether you might apply the credit listed in the *Guide* exhibit based on your own comparison.

14. Can a servicemember receive credit for a course that has been completed after the exhibit end date?

Yes, as long as the student started the course during the time span listed in the exhibit dates, credit may be granted. For example, when a new edition of a Coast Guard correspondence course is brought on line, the Coast Guard grants a window of 26 weeks to allow the student to complete the older edition, provided the Education Services Officer has the end-of-course examination for that edition in stock. The official student record which can be obtained from the Coast Guard Institute will verify that the member completed a particular edition of the course. ACE exhibit dates show the date the new course was instituted.

15. I found the correct exhibit in my *1998 Guide*, but under Credit Recommendation it says "Pending evaluation." What should I do?

Check the *Handbook to the Guide*. Staff members regularly conduct site evaluations. When a course or occupation is listed as "Pending evaluation," and does not appear in the *Handbook*, you can call to find out if a credit recommendation is available, or send in the *Request for Course Recommendation* or *Request for Navy Occupations* form. The *Guide* system is constantly growing as courses and occupations are added to the data base.

16. Can you offer some tips on locating courses by title?

You can generally locate an exhibit by searching in the Keyword Index under the main words in the title. Generic terms such as Repair and Officer are not keywords.

Keywords may consist of two or three words. For example, *Electronics Technician*, *Aviation Electronics*, and *Air Traffic Control* are keywords.

The computer's system of alphabetizing places abbreviations and acronyms at the end of a sequence. For example,

Nurse
Nursing
NBC
NCO

Numbers are arranged in the following sequence:

Mk 1
Mk 1A
Mk 10
Mk 100
Mk 108
Mk 11
Mk 111
Mk 119
Mk 12

As you can see, 12 appears after 100. Letters appear before numbers.

17. One of my students completed a formal military course but does not have a DD Form 295 or DD Form 214. Should I grant credit for the course? How can I verify that the student actually completed the course?

The requirement that school officials use the DD 295 or DD 214 to verify successful completion of a service course is not intended to exclude those individuals who do not have access to the forms. These forms are unavailable to civilians attending military courses. In such cases, alternative forms of certification, such as course completion certificates or other records of training, may be used to verify eligibility for credit. The DD 295 is available to Reservists and National Guard members through their education services officers.

Veterans may use *Request Pertaining to Military Records*, Standard Form 180, available from Veterans Administration offices, and reproduced in Section G in this volume, to obtain records of their military training.

18. When credit is recommended in more than one category, what should I do?

Credit is sometimes recommended in more than one category. One reason for multiple-category recommendations is that the scope of a given rating or course may reflect learning in several subject fields at different levels of complexity.

A thorough reading of the exhibit will help you to determine which category to apply. Compare learning outcomes or course objectives and content with those of your own institution.

Credit recommended in a given subject field that is applied to two or more categories should not be added. Determine how the credits apply to the student's program of study at your institution.

For example:

In the vocational certificate category, 15 semester hours in electricity or electronics. In the lower-division baccalaureate/associate degree category, 10 semester hours in electricity or electronics. In the upper-division baccalaureate category, 5 semester hours in electricity or electronics (6/75).

Compare the exhibit description with the outcomes of electricity or electronics or related courses and programs of study at your institution. Award credit based on comparison of these outcomes.

This example may occur in older exhibits found in the *1954-1989 Guide*.

Evaluators now place the credit in a given subject area in the highest, most appropriate category. If credit is placed in more than one category, specific subjects will be cited. Some military courses may reflect competencies at the lower division, such as personnel supervision, as well as more advanced competencies at the upper division, such as human resource management. Thus it would be appropriate to grant credit at both levels.

As a general rule, you should read the course or occupation description and then award credit as it best applies to the student's program of study, as determined through academic counseling.

19. Should a two-year college use only lower-division credit recommendations? And should a four-year college use only upper-division credit recommendations?

Not necessarily. Evaluators place a course recommendation in the highest appropriate category. If your institution teaches a given course at a different level, you are encouraged to grant credit at that level. Depending on the recommendation, the programs of study at the institution, and the objectives of the student, all types of institutions can use any or all of the four credit categories. See Appendix A.

20. Do I have to grant credit *exactly* as it appears in the recommendation?

The use of ACE recommendations is the prerogative of education officials and employers. The recommendations are provided to assist you in assessing the applicability of military learning experiences to an educational program or occupation. You may modify the recommendations in accordance with your institution's policies and practices.

Credit may be applied to a student's program in various ways: (1) applied to the major to replace a required course, (2) applied as an optional course within the major, (3) applied as a general elective, (4) applied to meet basic degree requirements, or (5) applied to waive a prerequisite. Credit granted by a postsecondary institution will depend on institutional policies and degree requirements.

The learning of some service personnel may exceed the skills, competencies, and knowledge evaluated for a specific course or occupation. In these cases, you may wish to conduct further assessment.

For additional help in this area, see the "Elements of a Model Policy on Awarding Credit for Extrainstitutional Learning" in Volume 3.

21. May I conduct my own assessment of an applicant's learning?

In a sense, you are *always* conducting your own assessment, even when you use the recommendations in this book. The *Guide* is one reference available to assess what an applicant has learned and how that learning can be applied to a specific program of study at your institution. When you cannot find a recommendation in the *Guide* or the *Handbook*, or cannot obtain one from ACE, we encourage you to use other means to assess what the person has learned.

There is a wide variety of assessment techniques that you can use: written examinations, oral examinations, faculty committee assessment, evaluation of materials supplied by the applicant, personal interviews, performance tests, and standardized examinations such as CLEP. A combination of several techniques will usually result in a reliable assessment of the person's learning.

Learn more about assessment techniques through the publications of the Council for Adult and Experiential Learning (CAEL). Publications may be purchased from CAEL, 243 South Wabash Avenue, Suite 800, Chicago, IL 60604 (312-922-5909).

The ACE Guide Series now comprises this *Guide*, the *1954-1989 Guide*, and companion volumes, *The National Guide to Educational Credit for Training Programs* (which lists recommendations for courses offered by business and industry, government agencies, professional and voluntary associations, and labor unions) and *The Guide to Educational Credit by Examination* (which provides descriptions and credit recommendations for nationally recognized testing programs). *The National Guide* is available from Oryx Press, (800) 279-6799. The *Guide to Educational Credit by Examination* may be purchased from the American Council on Education (202-939-9434).

22. We have received a transcript from a military service school listing semester credits and carrying the statement that the school is accredited by one of the regional accrediting associations. How do we handle this?

Although some military schools are accredited, these are the only ones with degree-granting status at publication time.

- Community College of the Air Force, Maxwell Air Force Base, AL, accredited at the two-year community college level;
- Army Command and General Staff College at Fort Leavenworth, KS, accredited to grant an MA;
- Air Force Institute of Technology at Wright-Patterson Air Force Base, OH, accredited through the doctoral level;
- Joint Military Intelligence College (formerly Defense Intelligence College), Washington, DC, accredited to grant an MA;
- Naval Postgraduate School, Monterey, CA, accredited through the doctoral level;
- Naval War College, Newport, RI, accredited to grant an MA;
- Uniformed Services University of the Health Sciences School of Medicine, Bethesda, MD, accredited through the doctoral level;
- the National Defense University's National War College, accredited to grant an MA;
- Industrial College of the Armed Forces, accredited to grant an MA; and the service academies.

23. I am an employer. How will the *Guide* be useful to me?

You may find the exhibits helpful in identifying the skills and knowledge of veterans when hiring and placing them in jobs. The recommendations and descriptions enable you to compare a veteran's training and experience with the qualifications and requirements for the particular job. The recommendations relate learning to postsecondary courses and curricula.

A new document, *DD Form 2586, Verification of Military Experience and Training*, has been designed specifically for your use. Although not appropriate for the granting of credit, this form is a comprehensive listing of military education and training and is ideal for an employer.

24. Why does ACE end-date some courses that are still offered?

First, check the Keyword or Course Number index to determine whether another exhibit is referenced. If not, the exhibit may be end-dated because the military school has not provided information on the course in ten years. Other course exhibits may be end-dated when ACE receives military documentation showing a course has changed significantly. The modified course may appear as a new exhibit or as a new version of an old exhibit.

25. Why are most Defense Language Institute (DLI) courses end-dated in 1990? What do I do for foreign language courses taken after that time?

Credit recommendations are now based on successful completion of the Defense Language Proficiency Test (DLPT) end-of-course examination.

ACE's Credit by Examination Program began evaluating DLI's end-of-course examinations in October 1990. Credit recommendations are now based on successful completion of the DLPT III and IV series. These examinations may be taken by servicemembers who complete the DLI courses, as well as by servicemembers who must demonstrate on-going language proficiency without having taken formal training. Evaluation of the tests is a way to ensure that both groups receive appropriate recognition. See the Defense Language Proficiency Test charts in volume 3 for the credit recommendations.

An official DLI transcript listing the test results is available to the examinee from Commandant, Defense Language Institute, Foreign Language Center, ATTN: ATFL-DAA-AR, The Presidio of Monterey, Monterey, CA 93944-5006. Test scores are available by writing to DLI/FLC, The Presidio of Monterey, Monterey, CA 93944-5006, ATT: ATFL-EST-M (DLPT Score Reports). Or you may call (408) 242-5291 for the Office of the Provost, or (408) 242-5825 or -6459 for the Registrar's office. For information about the status of a transcript, call (408) 242-5366. The Fax number is (408) 242-5146.

Additional information on these examinations may be obtained from ACE's *Guide to Educational Credit by Examination*, 4th edition.

26. What are USAFI and DANTES? Should I grant credit for the courses and tests listed on an applicant's USAFI or DANTES military test reports?

USAFI was the United States Armed Forces Institute, which offered an extensive educational program to active-duty personnel. USAFI correspondence, seminar, self-study courses, end-of-course tests, and Subject Standardized Tests (SSTs) were made available to servicemembers worldwide until 1974, when USAFI was disestablished. Credit recommendations for USAFI courses and examinations are listed in the *Handbook to the Guide*.

The Defense Activity for Non-Traditional Education Support (DANTES) was established in 1974, and that agency continues the development and administration of SSTs and other educational services. ACE continues to recommend credit for USAFI offerings and DANTES SSTs. Credit recommendations for DANTES SSTs are found in the *Handbook to the Guide*. Detailed descriptions are found in the *Guide to Educational Credit by Examination*, which is available from the ACE Credit by Examination Program.

In verifying completion of USAFI or DANTES courses or tests, the military test report should not be considered official. That report is given to all servicemembers who have taken a course or test. To obtain official USAFI or DANTES transcripts, refer to the addresses provided in Appendix A, under "Other Resources."

27. I have looked up the exhibits for several courses and occupations for one applicant. It appears that a lot of credit recommended is in the same subject area. How can I avoid granting duplicate credit to this person?

You may grant credit for any combination of learning experiences. In doing so, however, you must be alert to the possibility of overlapping credit recommendations. When the student is applying for credit for more than one learning experience, the credit recommendations might cover some of the same learning. In such cases, awarding a simple total of the recommended credit could result in the award of more credit than the learning merits.

To determine how much credit should be awarded without duplication, use the following steps:

- Using official military records, locate the appropriate course and occupation exhibits in the *Guide*.
- Read and compare all the descriptions, and, on the basis of the person's program of study, identify the appropriate recommendations in each exhibit.
- Read and compare all the recommendations. It may be necessary to obtain additional information from the individual through interview or further assessment.
- Make decisions on how much credit might be awarded without duplication. Credit should be awarded as appropriate to the educational goals of the individual and the policies of the institution.

If you cannot determine whether duplication exists, contact ACE.

28. A Navy student I'm counseling has taken an Air Force course not in the *Guide*. What should I do?

Any servicemembers who started an Air Force course prior to March 31, 1996 can obtain a CCAF transcript. Servicemembers who take courses after this date should contact CCAF for information on transcripting availability. The transcript may be used to request transfer of credit to another institution or to otherwise document college credit. CCAF does not award credit for all Air Force courses, but only those regularly attended by Air Force enlisted personnel and taught by CCAF-affiliated schools.

To obtain a CCAF transcript, send a completed AF Form 2099 or a brief letter requesting transcript service to CCAF/RRR, Simler Hall, Suite 128, 130 West Maxwell Boulevard, Maxwell Air Force Base, AL 36112-6613. A certificate of training must accompany the request. DD Form 214 is not acceptable. Specify the type of transcript (personal or official) and the address to which the transcript is to be mailed. Provide full name and social security number, and ensure that the person whose transcript is requested signs the request form. The transcripts are free. Official transcripts will be mailed only to institutions.

29. I've found exhibits for most enlisted occupations, but not for the Air Force and Marine Corps. How come?

Air Force enlisted personnel should write to the Community College of the Air Force (CCAF) to obtain a transcript, which will include credit for the Air Force Specialty Codes (AFSCs) (occupations) held. The address is listed in question 28.

Selected Marine Corps MOS recommendations are included in the *Guide*. At present, evaluations have been conducted for MOS's in the aircraft maintenance and avionics occupational fields.

30. How can I distinguish among the terms paygrade, general rate, rating, and rate?

A paygrade is a position from 1 to 9 on the Navy's pay scale for enlisted personnel; in referring to a paygrade, the letter E (enlisted) precedes the number (E-1, E-2, E-3 through E-9). A general rate is an apprenticeship that indicates eligibility for entrance into various ratings. A rating is an occupation, e.g., Air Controlman. A rate is an identifying term or title associated with a given paygrade, for example, the rate petty officer third class. A rate may also be associated with a specific rating; for example, a petty officer third class whose rating is Air Controlman will usually refer to his or her rate as Air Controlman Third Class. Navy men and women usually refer to themselves by their rate. Refer to Appendix A for a description of the Navy Enlisted Rating Structure.

31. Do all ratings provide paths of advancement and career development for paygrades E-4 through E-9?

Although most ratings begin at paygrade E-4 and culminate at paygrade E-9, there are some exceptions. For example, the Legalman rating consists of paygrades E-5 through E-9. In this case, a person progresses to paygrade E-5 from paygrade E-4 of the Yeoman rating. At the other end of the spectrum, some ratings are structured so that a person holding a rating that consists only of paygrade E-9 (e.g., Master Chief Constructionman) may have progressed from any one of several related ratings that terminate at paygrade E-8. Paths of progression are provided in each exhibit in the *Career Pattern* section.

32. Should persons be granted credit for their Navy general rate (paygrade E-3) as well as rating (paygrades E-4 to E-9)?

Yes. Anyone holding a rating is also eligible for the credit recommended in the general rate exhibit. The six general rates are Airman, Constructionman, Dentalman, Fireman, Hospitalman, and Seaman. The item *Career Pattern* in the rating exhibit will indicate the general rate the individual held prior to progressing to the rating. The general rate exhibit should then be located and the credit recommended considered in conjunction with the credit recommendation for the rating.

33. A student has asked for credit for an NEC. What are NECs and have they been evaluated?

An NEC (Navy Enlisted Classification), a four-digit code, identifies qualifications individuals acquire in addition to skills required in their rating. A majority of the NECs are narrow in scope and have not been evaluated. Several NECs, however, require full-time assignment.

NECs are evaluated using the same procedures ACE has used for the evaluation of occupations. NECs are listed in Section 5-1 in numeric order. If the title alone is known, refer to the Navy Enlisted Classification Index.

See the *How to Find and Use Navy Enlisted Classification (NEC) Exhibits* section for a list of documents used to verify the NEC. You need to check only one of those documents. Keep in mind that individuals must also maintain proficiency in their rating. They are required to pass the rating advancement examination to qualify for promotion. They are thus eligible to receive credit for both the rating and the NEC.

34. I've checked both this *Guide* and the *1954–1989 Guide*, and my student held an occupational specialty prior to the start date of the exhibit. Should I still use the recommendation?

Probably not. You need to do some additional investigating to help you decide whether to accept or modify the recommendation. The start date established by ACE is based on how far back we can verify that the occupation was the same as it was when our team evaluated it. The verification is based on official documentation provided by the Navy. We do not have the means to confirm that an occupation was the same before the start date, but you might. There are two steps to follow in making your decision:

1. Ask the person to provide a copy of the Navy Regulation pertaining to occupational qualifications or standards that were in effect when he or she held the specialty. Use the qualifications or standards to identify the learning outcomes represented by the general rate or rating. Individuals may request a description of their ratings from the publication NAVPERS 1 8068F. This description is available from the Naval Military Personnel Command, Arlington Annex, Arlington, VA 20350. Please include the title of the rating and dates held.
2. Determine how much credit might be granted. Remember that advancement connotes occupational proficiency. A careful comparison of the description in the occupation exhibit and the qualifications or standards obtained in step one may reveal if there was a substantive difference. If not, the credit recommendation in the exhibit may be appropriate. If specific differences are identified, then the recommended credits need to be modified accordingly. One approach to modifying the credit recommendation is to have faculty members in appropriate subject areas assess the person's learning, identifying the discrete learning outcomes achieved by the person and relating them to the educational objectives of courses and programs of study. Equivalent credit should be granted when the person has demonstrated achievement of the same learning outcomes for which the faculty members grant credit to their students.

35. Why is the number of credits recommended for the occupation greater than the number recommended for the course that leads to it?

It is rare for the subject matter covered in a course to perfectly coincide with the learning represented by occupational proficiency. In most cases, there is quite a difference in scope, both in the subject matter and in the depth and breadth of the learning. Usually the scope of a course is narrower than that of the occupation. Most Navy courses are designed to prepare Navy sailors to function on the job or to take on additional tasks. As such, the courses normally provide entry-level occupational skills and competencies. Occupational proficiency is predicated on the additional factor of work experience and/or extensive self-instruction.

Course Exhibits

NV

NV-0326-0003

Organizational Effectiveness Specialist
(Human Resource Management Specialist)

Course Number: A-500-0045.

Location: Leadership and Organizational Effectiveness School, Millington, Memphis, TN.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To provide graduates with the knowledge and skills necessary to select and apply organizational technologies as a consultant to the US Navy.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and diagnose organizational problems with attention to organizational culture, values, power, leadership, authority, decision making, and group process; conduct self-assessment in personal development; gather and analyze organizational data using selected (inferential and descriptive) statistics; design and and present a data driven organizational effectiveness implementation; understand and communicate systemic dimensions of complex organizations; and design and plan organizational change.

Credit Recommendation: In the graduate degree category, 6 semester hours in organizational development and organizational effectiveness and 3 in practicum in organizational consulting (2/85).

NV-0326-0004

Organizational Effectiveness Advanced Consultant Course

Course Number: None.

Location: Leadership and Organizational Effectiveness School, Millington, Memphis, TN.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To provide participants with advanced concepts and skills in organizational diagnosis and analysis.

Instruction: The course provides a brief overview of organization theory and addresses standard topics found in the study of organizational effectiveness, including systems theory and models, marketing theory and strategy, strategic planning, organizational design and change, and confrontation and negotiation. The student is taught to function as an organizational consultant capable of designing organizational change strategies to enhance an organization's effectiveness.

Credit Recommendation: In the graduate degree category, 2 semester hours in organizational diagnosis and change (4/85).

NV-0401-0001

Unaccompanied Personnel Housing Management, Class C1
(Bachelor Quarters Management)

Course Number: A-800-0021.

Location: Air Technical Training Center, Memphis, Millington, TN; Training Center, San Diego, CA; Training Center, Norfolk, VA.

Length: 3 weeks (110-120 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to apply knowledge of housekeeping, front office, personnel practices, and accounting in lodging operations.

Instruction: Course includes lectures and performance exercises in room assignment, guest relations, personnel management, financial accounting and management, and budgeting.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in hotel (lodging) operations and/or rooms management (6/94).

NV-0401-0002

Public Quarter/Flag Operations

Course Number: A-800-0023.

Location: Service School Command, San Diego, CA.

Length: 1 week (40-45 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will operate a small full-service (bed and breakfast) executive residence.

Instruction: This lecture course emphasizes all aspects of the operation of an executive residence, including service procedures, equipment maintenance and operation, sanitation, etiquette, security, and lodging.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in food service, lodging, and management (2/90).

NV-0501-0001

Job Oriented Basic Skills, Strand 1

Course Number: A-651-0085.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate improved reading, study, and note taking skills and written and oral communication skills needed for admission to entry-level technical training courses.

Instruction: These lectures and performance activities are designed to improve study skills, attention to detail, discipline, and motivation as related to engineering terminology and concepts, measuring instruments, engineering drawings and diagrams, and propulsion engineering.

Credit Recommendation: Credit is not recommended because the course is remedial and not at the postsecondary level (6/91).

NV-0501-0002

Job Oriented Basic Skills (JOBS), Class AP-1, Operations Ratings, Strand 2

Course Number: A-100-0059.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, student will demonstrate those math/English skills which will allow them to qualify for entry into entry-level technical training.

Instruction: The course is composed of training in reading comprehension, study skills, basic mathematics skills, graphing/tables, and basic concepts on specific topics. The course is composed of periods of instruction and amplifying exercises.

Credit Recommendation: Credit is not recommended because this material is developmental (11/95).

NV-0501-0003

Job Oriented Basic Skills (JOBS), Class AP-1, Electronics Ratings, Strand 4

Course Number: A-100-0060.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be academically prepared to qualify for entry-level electricity/electronics training.

Instruction: Course includes lectures and practical exercises in study techniques, reading comprehension, basic math skill development, and basic electricity theory.

Credit Recommendation: Credit is not recommended because material is developmental (11/95).

NV-0501-0004

Job Oriented Basic Skills (JOBS), Class AP-1, Mechanical Ratings, Strand 7

Course Number: A-603-0001.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Upon completion of the course, the student will be academically prepared to qualify for entry-level technical training in mechanical ratings.

Instruction: Course includes lectures and practical exercises in basic math skill develop-

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ment, reading comprehension, and study techniques.

Credit Recommendation: Credit is not recommended because the material is developmental (11/95).

NV-0505-0001

VERDIN INTEGRATED SUBMARINE AUTOMATED BROADCAST PROCESSING SYSTEM (ISABPS) SHORE COMMUNICATIONS SYSTEM OPERATOR

Course Number: A-260-0035.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/93.

Objectives: After 1/93 see NV-0505-0004. To train enlisted personnel to operate an automated submarine broadcast system.

Instruction: Lectures and practical exercises cover the operation of the AN/URC-62 digital data system, AN/FRQ-87(V) data processing system, and the peripheral equipment in LF/VLF broadcast operations, including the various modes and different conditions, the procedures for handling operating failures, and operating malfunctions of the equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in broadcast system operations (9/83); in the lower-division baccalaureate/associate degree category, 1 semester hour in broadcast system operations (9/83).

NV-0505-0002

AN/SYQ-7(V)3 NAVAL MODULATED AUTOMATED COMMUNICATIONS SYSTEM OPERATOR

Course Number: A-260-0037.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–6/91.

Objectives: After 6/91 see NV-0505-0003. To train personnel to operate a particular modular automated communications system.

Instruction: Lectures and practical exercises in system activation including program loading and normal and contingency operating procedures of the AN/SYQ-7(V)3 modular automated communications system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electronic equipment operation for broadcast communications (9/83); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic equipment operation for broadcast communications (9/83).

NV-0505-0003

AN/SYQ-7(V)3 NAVAL MODULAR AUTOMATED COMMUNICATIONS SYSTEM

Course Number: A-260-0037.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 2-3 weeks (99-120 hours).

Exhibit Dates: 7/91–Present.

Learning Outcomes: Before 7/91 see NV-0505-0002. Upon completion of the course, personnel will be able to operate a computerized message processing system for automation of messages received and transmitted, using both satellite and conventional HF paths and using the naval modular automated communications system, AN/SYQ-7(V)3.

Instruction: Exercises in the operation of automated message system cover step-by-step processing of messages and contingency operations due to power failure and loss of equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electronic equipment operation for broadcast communications (6/94); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic equipment operation for broadcast communications (6/94).

NV-0505-0004

VERDIN INTEGRATED SUBMARINE AUTOMATED BROADCAST PROCESSING SYSTEM SHORE COMMUNICATIONS SYSTEM OPERATOR

Course Number: A-260-0035.

Location: Fleet Training Center, Norfolk, VA.

Length: 4 weeks (144 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Before 2/93 see NV-0505-0001. Upon completion of the course, the student will be able to operate an automated submarine broadcast system.

Instruction: Lectures and practical exercises cover the operation of the AN/URC-62 digital data system, AN/FYQ-87(V) data processing system, and peripheral equipment in LF/VLF broadcast operations. Course includes operating the equipment in various modes and under various conditions and the procedures for handling operating failures and malfunctions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hour in broadcast system operation (11/95).

NV-0701-0008

DENTAL LABORATORY TECHNICIAN, MAXILLOFACIAL, CLASS C

Course Number: B-331-0018.

Location: Dental Clinic, Bethesda, MD.

Length: 26 weeks (1040 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to assist a dentist in a variety of prosthodontic procedures and independently fabricate maxillofacial appliances, including intraoral, extraoral, ocular, nasal, facial, auricular, and orbital prostheses.

Instruction: Course of study includes lecture, discussions, laboratory practice, and extensive supervised clinical practice in sculpting, carving, modeling, impressions, stone molds, stents, carriers, positioners, cranial implants, and maxillary obturators. Major emphasis is placed on the materials and construction of intraoral, extraoral, auricular, and ocular prostheses.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in impression, mold, and model making, 6 in ocular prostheses, 8 in extradental prostheses, and 5 in intraoral prosthesis (10/90).

NV-0701-0010

DENTAL LABORATORY TECHNOLOGY BASIC, CLASS C

Course Number: B-331-0016.

Location: School of Dental Assisting and Technology, San Diego, CA.

Length: 24 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to fabricate basic dental prosthetic appliances.

Instruction: Lectures, discussions, and clinical practice cover complete dentures, removable partial dentures, and fixed partial dentures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 10 semester hours in complete dentures, 7 in removable partial dentures, and 4 in fixed partial dentures (7/90).

NV-0701-0011

DENTAL LABORATORY TECHNOLOGY ADVANCED, CLASS C

Course Number: B-331-0017.

Location: School of Dental Assisting, San Diego, CA.

Length: 24 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform advanced dental fabrication techniques and demonstrate managerial skills.

Instruction: Lectures, discussions, and clinical practice covers advanced complete, removable partial, and fixed partial denture techniques and dental laboratory management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in advanced complete denture techniques, 5 in advanced removable partial denture techniques, 14 in fixed partial denture techniques, and 1 in dental laboratory management (7/90).

NV-0701-0012

DENTAL ASSISTANT BASIC, CLASS A

Course Number: B-330-0010.

Location: School of Dental Assisting and Technology, San Diego, CA.

Length: 12 weeks (479 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to assist the dentist at the chairside; perform tasks in dental radiology; carry out office procedures; and perform emergency medical treatment.

Instruction: Course includes lectures, individualized instruction, and clinical experience in basic dental sciences, preventive dentistry, dental emergencies, general casualty care, radiography, and chairside assisting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic dental sciences, 3 in chairside assisting, 2 in dental radiology, 2 in office procedures, and 2 in emergency medical treatment (7/90).

NV-0701-0013

DENTAL ADMINISTRATIVE TECHNICIAN, CLASS C

Course Number: B-330-0011.

Location: School of Dental Assisting and Technology, San Diego, CA.

Length: 24 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to carry out administrative aspects of dental assisting.

Instruction: Lectures and practical exercises cover the administrative aspects of dental assisting, including communication skills, personnel management, office management, dental facility administration, financial management, principles of accounting, and the use of office machines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in advanced office and administrative procedures (7/90).

NV-0702-0007

Hemodialysis/Apheresis Technician, Class C

Course Number: *Version 1:* B-311-0022. *Version 2:* B-311-0022.

Location: School of Health Sciences, Bethesda Detachment, Portsmouth, VA.

Length: *Version 1:* 26 weeks (1040 hours). *Version 2:* 26 weeks (1040 hours).

Exhibit Dates: *Version 1:* 9/90–Present. *Version 2:* 2/90–8/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and maintain hemodialysis/apheresis equipment and assist the physician with treatment procedures, patient care, and patient monitoring of acute and chronic disorders. *Version 2:* Upon completion of the course, the student will be able to operate and maintain hemodialysis/apheresis equipment and assist the physician with treatment procedures, patient care, and patient monitoring of acute and chronic disorders.

Instruction: *Version 1:* Methodologies include lectures, practical exercises, and clinical training. Course includes instruction in performing acute/chronic hemodialysis, peritoneal dialysis, continuous arteriovenous hemofiltration, hemoperfusion, plasmapheresis, plateletpheresis, leukopheresis, plasma exchanges, perioperative autologous blood salvage, and therapeutic bleedings. Course instruction includes equipment operation and maintenance, proper storage of blood products, disinfection and preventive maintenance of equipment, standard infectious disease protocols, and assurance and quality control measures. *Version 2:* Methods include lectures, practical exercises, and clinical training. Course includes instruction in performing acute/chronic hemodialysis, peritoneal dialysis, continuous arteriovenous hemofiltration, hemoperfusion, plasmapheresis, plateletpheresis, leukopheresis, plasma exchanges, perioperative autologous blood salvage, and therapeutic bleedings. Course instruction includes equipment operation and maintenance, proper storage of blood products, disinfection and preventive maintenance of equipment, standard infectious disease protocols, and assurance and quality control measures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to dialysis (6/93); in the upper-division baccalaureate category, 6 semester hours in hemodialysis, 3 in peritoneal dialysis, 3 in hematology, 9 in clinical practice, and 3 in hemipharesis (6/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to dialysis (9/92); in the upper-division baccalaureate category, 6 semester hours in hemodialysis, 3 in peritoneal dialysis, 8 in apheresis, and 8 in clinical practice (9/92).

NV-0702-0009

Cytology Technician
(Cytotechnologist)

Course Number: B-311-0036.

Location: National Naval Medical Center, Bethesda, MD.

Length: 52 weeks (1938 hours).

Exhibit Dates: 1/90–2/92.

Objectives: After 2/92 see NV-0702-0014. To train individuals to prepare, examine, and evaluate slide presentations of cellular materials for diagnostic purposes.

Instruction: Lectures, laboratory and clinical practice cover cytology specimen preparation, including techniques for collection, fixation, and preparation of materials; examination and evaluation of cellular materials obtained from a variety of tissue sites; and diagnostic determinations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in orientation to cytotechnology, 3 in cellular and human development, 14 in female genital tract, 5 in respiratory tract, 2 in serous body cavities, 2 in cerebrospinal fluids, 2 in oral cavity and gastrointestinal tract, 2 in cytology of the breast, 2 in urinary tract, 2 in fine needle aspiration cytology, 2 in cytopreparatory techniques, and 10 in clinical rotation (2/84).

NV-0702-0010

Transplantation Technician Training

Course Number: B-322-0015.

Location: School of Health Sciences, Bethesda, MD.

Length: 34-35 weeks (1360-1400 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To provide enlisted personnel with the basic knowledge required to assist with the clinical transplantation of organs and tissues.

Instruction: Lectures and laboratory instruction cover tissue banking, transplantation surgery, blood component support, and hemodialysis. Graduates will function as part of a transplantation team and perform specialized skills in tissue procurement and storage and care of experimental animals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in tissue banking, 2 renal dialysis, 3 in anatomy and physiology, 2 in chemistry, 2 in tissue culture, 2 in microbiology, 3 in blood component therapy, 2 in experimental surgery, 4 in basic immunology, 3 in bone marrow transplant, and 12 hours in clinical practicum (2/84).

NV-0702-0011

1. Urology Technician, Class C
2. Urology Technician

Course Number: *Version 1:* B-300-0025. *Version 2:* B-300-0025.

Location: *Version 1:* School of Health Sciences, Portsmouth, VA. *Version 2:* School of Health Sciences, San Diego, CA; School of Health Sciences, Portsmouth, VA.

Length: *Version 1:* 15-16 weeks (616 hours). *Version 2:* 26 weeks (1040 hours).

Exhibit Dates: *Version 1:* 5/96–Present. *Version 2:* 1/90–4/96.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will assist the urologist in the examination and medical and surgical treatment of urology patients.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures cover anatomy, physiology, urology operating room techniques, cytoscopic room techniques, and urology-radiologic procedures. Course includes 7 units from the operating room technician course.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in anatomy and physiology, 3 in urology surgical procedures, 2 in radiography, 2 in clinical urology, 1 in clinical practice, 1 in introduction to operating room techniques, 1 in introduction to environmental control in the operating room, 2 in surgical supplies and equipment, 1 in operating room circulator activities, 1 in scrub technician activities, and 3 in advanced surgical/anatomy procedures (7/90).

NV-0702-0012

Medical Laboratory Technician Advanced, Class C
(Medical Laboratory Technician, Advanced)

Course Number: B-311-0018.

Location: School of Health Sciences, Bethesda, MD; School of Health Sciences, San Diego, CA.

Length: 52 weeks (1948-2080 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic and advanced medical laboratory procedures; process blood donors; and perform techniques of blood banking.

Instruction: Lectures, laboratories, and clinical rotation cover urinalysis, hematology, clinical chemistry, clinical microbiology, parasitology, serology, and blood banking.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in urinalysis, 8 in hematology, 4 in general chemistry, 6 in clinical chemistry, 4 in parasitology, 3 in serology, 8 in microbiology, 8 in blood bank, and 16 in clinical rotation (7/95).

NV-0702-0013

1. Deep Sea Diving Independent Duty Corpsman, Class C
2. Deep Sea Diving Independent Duty Corpsman, Class C
3. Deep Sea Diving Independent Duty Corpsman

Course Number: *Version 1:* B-300-0001. *Version 2:* B-300-0022. *Version 3:* B-300-0022.

Location: *Version 1:* Undersea Medical Institute, Bethesda Detachment, New London, Groton, CT. *Version 2:* Submarine Base, New London, Groton, CT; Undersea Medical Institute, Bethesda, MD. *Version 3:* Submarine Base, New London, Groton, CT; Undersea Medical Institute, Bethesda, MD.

Length: *Version 1:* 45 weeks (1881 hours). *Version 2:* 44 weeks (1745 hours). *Version 3:* 38 weeks (1515 hours).

Exhibit Dates: *Version 1:* 3/94–Present. *Version 2:* 11/91–2/94. *Version 3:* 2/90–10/91.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will demonstrate proficiency in basic laboratory science; pharmacology; physical diagnosis; clinical anatomy and physiology; medical diagnosis and treatment; medication administration; environmental/occupational health; diving medicine; and computer skills. *Version 3:* Upon completion of the course, the student will apply basic laboratory science; identify the essential components of pharmacology; demonstrate knowledge of physical diagnosis; identify the basic elements of clinical anatomy and physiology; demonstrate knowledge of medical diagnosis, treatment, and clinical skills; demonstrate knowledge of the elements of medication administration; identify the basic elements of environmental/occupational health; identify the basic elements of diving medicine; demonstrate computer skills.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures, discussions, and clinical experience cover pharmacology, physical diagnosis, anatomy and physiology, medical diagnosis and treatment, clinical skills, medication administration, environmental and occupational health, diving medicine, and computer science. *Version 3:* Lectures, discussions, and clinical experience cover pharmacology, physical diagnosis, anatomy and physiology, medical diagnosis and treatment, clinical skills, medication administration, environmental and occupational health, diving medicine, and computer science.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in anatomy and physiology, 4 in clinical laboratory procedures, and 3 in microcomputer applications (6/93); in the upper-division baccalaureate category, 5 semester hours in physical assessment, 5 in pharmacotherapeutics, 5 in clinical pathology, 3 in sanitation and hygiene, 3 in prevention and safety, 10 in clinical management of medical and surgical conditions, and 3 in hyperbaric physiology (6/93). *Version 3:* In the lower-division baccalaureate/associate degree category, 1 semester hour in computer science and 4 in anatomy and physiology (9/92); in the upper-division baccalaureate category, 4 semester hours in clinical laboratory, 2 in pharmacology, 7 in physical diagnosis, 20 in medical diagnosis and treatment, 3 in clinical skills, 2 in medication administration, 4 in environmental and occupational health, 3 in diving medicine, and 6 in clinical rotation (9/92).

NV-0702-0014

1. Cytotechnologist, Class C
   (Cytotechnology, Class C)
2. Cytology Technician, Class C

Course Number: *Version 1:* B-311-0037. *Version 2:* B-311-0037.

Location: School of Health Sciences, Bethesda, MD.

Length: *Version 1:* 52 weeks (2080 hours). *Version 2:* 52 weeks (2080 hours).

Exhibit Dates: *Version 1:* 11/96–Present. *Version 2:* 3/92–10/96.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Before 3/92 see NV-0702-0009. Upon completion of the course, the student will be able to prepare and evaluate slide presentations of cellular materials for diagnostic purposes.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures, laboratories, and clinical practice cover cytology specimen preparation, including techniques for collection, fixation, and preparation of materials; examination and evaluation of cellular materials obtained from a variety of tissue sites; and diagnostic determinations.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the upper-division baccalaureate category, 8 semester hours in anatomy and physiology, 9 in histology, 9 in cytology, 1 in orientation to cytology, 9 in histology techniques, 10 in clinical experience, and 3 in microbiology (6/93).

NV-0703-0007

Surgical Technologist
(Operating Room Technician, Class C)

Course Number: B-301-0033.

Location: School of Health Sciences, Oakland, CA; School of Health Sciences, San Diego, CA; School of Health Sciences, Portsmouth, VA; School of Health Sciences, Bethesda, MD.

Length: 26-27 weeks (1056 hours).

Exhibit Dates: 1/90–8/96.

Learning Outcomes: Upon completion of the course, the student will be able to prepare and maintain operating rooms for surgery, assist with surgical procedures, and maintain an appropriate operating room environment.

Instruction: Lectures, discussions, and clinical experience cover operating room preparation and techniques, environmental control, activities of the operating room circulator and scrub technician, and advanced surgical anatomy/operative procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to operating room techniques, 1 in environmental control in the operating room, 2 in surgical supplies and equipment, 1 in activities of the operating room circulator, 1 in activities of the scrub technician, 3 in advanced surgical anatomy/operative procedures, 1 in preclinical orientation and evaluation, and 15 in clinical rotation (4/93).

NV-0703-0008

Hospital Corpsman
(Basic Hospital Corps)

Course Number: *Version 1:* B-300-0010. *Version 2:* B-300-0010.

Location: School of Health Sciences, San Diego, CA; Hospital Corps School, Great Lakes, IL.

Length: *Version 1:* 14 weeks (560 hours). *Version 2:* 14 weeks (470 hours).

Exhibit Dates: *Version 1:* 1/96–Present. *Version 2:* 1/90–12/95.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to perform as an entry-level provider of basic and emergency patient care.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures cover anatomy and physiology, first aid and minor surgery; hygiene and sanitation; pharmacology; toxicology; medical laboratory and patient care techniques and principles; nuclear, biological, and chemical safety; and trauma management and treatment. Course includes very limited clinical training.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the vocational certificate category, 4 semester hours in emergency care, 7 in basic patient care procedures, and 1 in pharmacology (7/90); in the lower-division baccalaureate/associate degree category, 3 semester hours in anatomy and physiology (7/90).

NV-0705-0006

Basic X-Ray Technician

Course Number: B-313-0025.

Location: Naval Regional Medical Center, Oakland, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–11/91.

Objectives: After 11/91 see NV-0705-0010. To instruct enlisted personnel to operate basic diagnostic medical X-ray and film processing equipment and to perform routine medical and administrative procedures.

Instruction: Lectures and clinical experience cover darkroom procedures, radiographic positioning, radiation safety, radiographic techniques, and anatomy.

Credit Recommendation: In the vocational certificate category, 2 semester hours in anatomy, 2 in radiographic techniques, 2 in radiographic positioning, 1 in darkroom procedures, and 6 in clinical practice (9/92).

NV-0705-0007

1. Advanced X-Ray Technician, Class C
2. Advanced X-Ray Technician

Course Number: *Version 1:* B-313-0026. *Version 2:* B-313-0026.

Location: *Version 1:* Naval School of Health Sciences, San Diego, CA; Naval School of Health Sciences, Portsmouth, VA. *Version 2:* School of Health Sciences, San Diego, CA; School of Health Sciences, Portsmouth, VA.

Length: *Version 1:* 52 weeks (2080 hours). *Version 2:* 52 weeks (1902 hours).

Exhibit Dates: *Version 1:* 7/93–Present. *Version 2:* 1/90–6/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform as an X-ray technologist. *Version 2:* Upon completion of the course, the student will perform as an X-ray technician.

Instruction: *Version 1:* Lectures, laboratories, practice, and clinical experience in mathematics, medical ethics and law, radiobiology, imaging equipment, radiation protection, pathology, introduction to computers, quality assurance, patient care and procedures, physics, and exposure and film processing. The student is eligible to take ARRT certification examination upon completion of 4,000 radiologic procedures in clinical practice. *Version 2:* Lectures, laboratories, and/or simulated practice cover mathematics, anatomy, positioning, radiologic physics, radiography, ethics, darkroom procedures, radiation biology, alternate imaging, radiation safety, radiologic pathology, ultrasound imaging, computer literacy, and quality assurance. Students become ARRT board eligible upon completion of 4,000 procedures in clinical practice.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in survey of mathematics, 16 in radiographic procedures, 6 in radiographic physics, 3 in radiographic exposure, 1 in medical ethics and law, 2 in radiobiology, 2 in imaging equipment, 1 in radiation protection, 1 in pathology, 1 in introduction to computer literacy, 1 in quality assurance, and 16 in clinical education (10/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in survey of mathematics, 6 in radiologic physics, 3 in radiographic techniques, 1 in medical ethics, 2 in darkroom procedures, 2 in alternate imaging, 1 in radiation safety, 2 in radiologic pathology, 6 in ultrasonography, 16 in anatomy and and positioning, and 1 in quality assurance (7/90).

NV-0705-0008

CLINICAL NUCLEAR MEDICINE TECHNICIAN

Course Number: B-311-0016.

Location: School of Health Sciences, Bethesda, MD.

Length: Phase 1, 20 weeks (792 hours); Phase 2, 32 weeks (1288 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will serve as an advanced clinical nuclear medicine technologist, assist physicians in preparing and conducting clinical nuclear medicine in vivo and in vitro procedures, independently organize and administer nuclear medicine clinics, operate and maintain clinical nuclear medicine instrumentation, and perform related computer analysis.

Instruction: Phase 1 includes lectures, discussions, and laboratory practice in mathematics, chemistry, radiation safety, instrumentation, radiopharmacology, diagnostic imaging, radionuclide dilution, thyroid therapy procedures, radiation biology, and radioimmunoassay. Phase 2 is clinical practice.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in physical science, 3 in radiation safety, and 6 in diagnostic imaging (10/90); in the upper-division baccalaureate category, 2 semester hours in radiation biology, 2 in radioimmunoassay, 3 in radiation instrumentation, 30 in clinical practice, and 3 in radioisotope technology (10/90).

NV-0705-0009

RADIATION HEALTH TECHNICIAN, CLASS C

Course Number: *Version 1:* B-322-0010. *Version 2:* B-322-0010.

Location: Submarine Base, New London, Groton, CT; Undersea Medical Institute, Bethesda, MD.

Length: *Version 1:* 8 weeks (320 hours). *Version 2:* 8 weeks (315 hours).

Exhibit Dates: *Version 1:* 8/90–Present. *Version 2:* 1/90–7/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to identify describe radiological fundamentals and controls, demonstrate beginning competencies in dosimetry and medical surveillance, identify the basics of radiation health administration and personnel training; demonstrate knowledge of medical casualty response and radiation safety, and demonstrate computer skills. *Version 2:* Upon completion of the course, the student will be able to describe the essentials of radiology and controls, demonstrate beginning competencies in dosimetry and medical surveillance, identify the basics of radiation health administration and personnel training, demonstrate knowledge of medical casualty response and radiation safety, and demonstrate computer skills.

Instruction: *Version 1:* Lectures, discussions, and clinical practice cover radiological fundamentals and controls, personnel, radiation dosimetry, health administration, medical surveillance and personnel training, medical casualty response, radiation safety, and computer science. *Version 2:* Lectures, discussions, and clinical practice cover radiological fundamentals and controls, radiation dosimetry, health administration, medical surveillance and personnel training, medical casualty response, radiation safety, and computer science.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in microcomputer applications (6/93); in the upper-division baccalaureate category, 3 semester hours in occupational health, 3 in radiation physics, and 3 in health administration (6/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in physics (10/90); in the upper-division baccalaureate category, 2 semester hours in radiology, 2 in occupational health and safety, and 2 in health administration (10/90).

NV-0705-0010

BASIC X-RAY TECHNICIAN, CLASS C
(Basic X-Ray Technician)

Course Number: B-313-0025.

Location: School of Health Sciences, Oakland, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Before 12/91 see NV-0705-0006. Upon completion of the course, the student will be able to operate basic diagnostic X-Ray and film processing equipment and perform other routine medical and administrative procedures.

Instruction: Lectures and practical applications cover darkroom procedures, radiographic positioning, radiation safety, radiographic techniques, and anatomy.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in radiographic techniques, 2 in radiographic positioning, 1 in darkroom procedures, 1 in radiation safety, and 5 in clinical practice (7/95).

NV-0706-0005

OPTICIAN, CLASS C

Course Number: B-311-0023.

Location: Ophthalmic Support and Training Center, Yorktown, VA.

Length: 26 weeks (1040 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to fabricate lenses, maintain and repair surfacing equipment, screen for common diseases and disorders of the eye, and perform selected clinical procedures.

Instruction: Methods of instruction include lectures, discussions, and clinical practice in the physics of diseases and disorders of the visual system, administration of ocular pharmaceutical agents, geometrical optics, optical math, ophthalmic lens design, mechanical optics, spectacle fabrication, equipment repair and maintenance, clinical procedures, ophthalmic dispensing, and administration and clinical management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in physics, 3 in diseases and disorders of the visual system, 1 in the administration of ophthalmic pharmacological agents, 1 in geometric optics, 2 in optical mathematics, 3 in ophthalmic lens design, 3 in mechanical optics, 3 in spectacle fabrication, 3 in equipment repair and maintenance, 1 in clinical procedures, 2 in ophthalmic dispensing, and 1 in administrative course and clinical management (7/90).

NV-0706-0006

OCULAR TECHNICIAN

Course Number: *Version 1:* B-300-0021. *Version 2:* B-300-0021.

Location: School of Health Sciences, San Diego, CA.

Length: *Version 1:* 14 weeks (650 hours). *Version 2:* 22 weeks (888 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/90–7/95.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will assist an ophthalmologist in the diagnosis and medical and surgical treatment of eye diseases and disorders.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures, discussions, and clinical practice cover diseases and disorders of the visual system, ocular medicine, ophthalmic optics, visual testing procedures, and clinical management. Also includes operating room preparation and techniques; operating room environmental control, surgical supplies, and equipment; activities of the operating room circulator and scrub technician; and advanced surgical anatomy/operative procedures.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 5 semester hours in diseases and disorders of the visual system, 2 in ocular medicine, 1 in ophthalmic optics, 2 in visual testing procedures, 1 in ophthalmic surgical equipment, 2 in clinical practice, 1 in introduction to operating room techniques, 1 in introduction to environmental control in the operating room, 2 in surgical supplies and equipment, 1 in activities of the operating room circulator, 1 in activities of the scrub technician, and 3 in advanced surgical anatomy/operative procedures (7/90).

NV-0707-0002

PREVENTIVE MEDICINE TECHNICIAN, CLASS C

Course Number: *Version 1:* B-322-0012. *Version 2:* B-322-0012.

Location: *Version 1:* School of Health Sciences, San Diego, CA. *Version 2:* School of Health Sciences, Oakland, CA.

Length: *Version 1:* 26 weeks (1040 hours). *Version 2:* 26 weeks (1040 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use basic disease prevention measures and promote public health, using techniques in occupational safety and health, environmental microbiology, medical entomology, and pest control. *Version 2:* Upon completion of the course, the student will be able to use basic disease prevention measures and promote public health, using techniques in occupational safety and health, environmental microbiology, medical entomology, and pest control.

Instruction: *Version 1:* Lectures, demonstrations, discussions, and practical exercises cover microbiology, immunology, mathematics, statistics, epidemiology, and environmental sanitation. *Version 2:* Lectures and practical exercises cover microbiology, immunology, mathematics, statistics, epidemiology, and environmental sanitation.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in public health microbiology; 3 in water/waste water management; 5 in occupational safety and health; 1 in biostatistics; 3 in medical parasitology; 5 in food sanitation technology; 5 in epidemiology and communicable disease control; 2 in health care facility sanitation; 2 in lesson development and presentation; 1 in chemical, biological, and radiological medical defense; 8 in medical entomology and pest control; 3 in public health administration; 2 in habitability and related service areas; 2 in mathematics; and 2 in operational sanitation (10/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in public health microbiology; 3 in water/waste water management; 5 in occupational safety and health; 1 in biostatistics; 3 in medical parasitology; 5 in food sanitation technology; 5 in epidemiology and communicable disease control; 2 in health care facility sanitation; 2 in lesson development and presentation; 1 in chemical, biological, and radiological medical defense; 8 in medical entomology and pest control; 3 in public health administration; 2 in habitability and related service areas; 2 in mathematics; and 2 in operational sanitation (7/90).

NV-0707-0003

ENGINEERING COMMON CORE

Course Number: A-651-0118.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 3/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic engineering auxiliary system components and procedures and apply principles of general industrial safety.

Instruction: Lectures, laboratory training, and practical exercises cover power plant components, safety hazards, and safe engineering practice.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in industrial safety (12/95).

NV-0709-0001

NUCLEAR SUBMARINE MEDICINE TECHNICIAN

Course Number: B-300-0012.

Location: Health Sciences Education and Training Center, New London, Groton, CT.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–6/93.

Objectives: To train hospital corpsmen to serve on submarines independent of a medical officer.

Instruction: This course is a combination of a three-week Basic Submarine course, an eight-week Radiation Health course, and a four-week Submarine Medicine course. The main emphasis of the course is in radiation fundamentals, radiation safety, radiation biology, radiation physics, radiation health administration, and advanced corpsman skills adapted to the nuclear submarine environment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in radiation fundamentals, 1 in radiation safety, 2 in radiation biology, 3 in radiation health physics, 3 in radiation health administration, and 3 in nuclear submarine medical procedures (6/83).

NV-0709-0003

AEROSPACE MEDICINE TECHNICIAN

(Aerospace Medical Technician, Class C)
(Aviation Medicine Technician, Class C)
(Aviation Medicine Technic)

Course Number: B-300-0017.

Location: Aerospace Medical Institute, Pensacola, FL.

Length: 10 weeks (350 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To train selected hospital corpsmen in aerospace medicine.

Instruction: Lectures and practical exercises cover anatomy and physiology, circulatory and respiratory systems, aviation physiology, psychology, emergency medical procedures, aviation safety and investigation, ophthalmology, and clinical laboratory practice in physical examinations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in anatomy and physiology, 1 in optometry, 1 in administrative procedures, 4 in health record administration, 1 clinical procedures, and 1 in first aid (4/85).

NV-0709-0004

AEROSPACE PHYSIOLOGY TECHNICIAN

Course Number: B-322-11; B-322-0011.

Location: Aerospace Medical Institute, Pensacola, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To train enlisted personnel to assist in the indoctrination of personnel in aerospace physiology.

Instruction: Lectures and laboratory experiences cover the procedures for inside instructors and observers in hypobaric chambers, the aeromedical aspects of flight, visual problems and spatial orientation in aviation, naval aviation personal protective and life support equipment, emergency egress systems, aeromedical aspects of ejection, operation and maintenance of aerospace physiology training devices, and basic instructor techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in aerospace physiology and aviation environment procedures (5/85).

NV-0709-0012

PHYSICIAN'S ASSISTANT

Course Number: B-300-0031.

Location: Naval School of Health Sciences, Portsmouth, VA; Naval School of Health Sciences, San Diego, CA.

Length: 52-60 weeks (2080-2400 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To provide experienced personnel with the technical knowledge and skills to assist physicians in evaluation, primary care, and disposition of patients.

Instruction: Lectures and clinical rotations are aimed at developing student abilities to perform complete historical and physical examinations, order and interpret routine radiographic studies, perform minor surgery, provide emergency health care, and exercise a degree of independent judgement in treatment and therapy procedures, all under the supervision of a medical officer. The program includes course work in basic and clinical health sciences.

Credit Recommendation: In the upper-division baccalaureate category, 6 semester hours in anatomy and physiology, 3 in biochemistry, 2 in microbiology, 4 in pharmacology, ! in musculoskeletal/orthopedics, 1 in cardiovascular, 1 in genitourinary and renal, 1 in infectious diseases, 1 in gastrointestinal medicine, 1 in otolaryngology, 1 in pediatrics, 1 pulmonary medicine, 1 in clinical pathological carrelation (CPC), 1 in radiology, 1 in electrocardiography, 2 in emergency medicine and surgical procedures, 2 in human behavior (psychiatry), 4 in clinical assessment (physical diagnosis), 1 in issues in health care, 3 in medical electives (neurology, endocrinology, hematology, oncology, dermatology, obstetrics/gynecology, ophthalmology, substance abuse, and communication processes), and 10 in clinical rotation (4/85).

NV-0709-0016

OTOLARYNGOLOGY TECHNICIAN, CLASS C

Course Number: *Version 1:* B-300-0024. *Version 2:* B-300-0024.

Location: School of Health Sciences, San Diego, CA.

Length: *Version 1:* 12 weeks (480 hours). *Version 2:* 22 weeks (880 hours).

Exhibit Dates: *Version 1:* 1/96–Present. *Version 2:* 1/90–12/95.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to assist physicians in the medical and surgical care and treatment of patients for ear, nose, and throat conditions by demonstrating proficiency in operating room techniques, audiological diagnostic testing, and clinical skills.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures, laboratory practice, surgical, audiological, and clinical rotation cover clinical experiences in medical and surgical procedures of ear, nose, and throat. Course contains seven units of the operating room technician course.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in anatomy and physiology, 2 in otolaryngology procedures/techniques, 8 in clinical practice, 1 in introduction to operating room techniques, 1 in introduction to environmental control in the operating room, 2 in surgical supplies and equipment, 1 in operating room circulator activities, 1 in scrub technician activities, and 3 in advanced surgical/anatomy procedures (7/90).

NV-0709-0017

DERMATOLOGY TECHNICIAN, CLASS C

Course Number: B-300-0029.

Location: School of Health Sciences, San Diego, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to assist a physician in diagnosing and treating all types of skin diseases and demonstrate proficiency in specific diagnostic methods and procedures.

Instruction: Lectures and laboratories cover dermatology assisting, including basic laboratory techniques, basic bacteriology, serology, hematology, pathology, mycology, and parasitology; diagnosis of common dermatoses; medical records and reports; operating room techniques; and special treatment procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in medical laboratory techniques, 2 in basic dermatology, and 8 in clinical practice (7/90).

NV-0709-0018

1. Cardiovascular Technician, Class C
2. Cardiovascular Technician, Class C
3. Cardiopulmonary Technician, Class C

Course Number: *Version 1:* None. *Version 2:* B-300-0018. *Version 3:* B-300-0018.

Location: *Version 1:* School of Health Sciences, Bethesda, MD. *Version 2:* School of Health Sciences, San Diego, CA; School of Health Sciences, Bethesda, MD. *Version 3:* School of Health Sciences, San Diego, CA; School of Health Sciences, Bethesda, MD.

Length: *Version 1:* 52 weeks (2111 hours). *Version 2:* 52 weeks (2108 hours). *Version 3:* 52 weeks (2112 hours).

Exhibit Dates: *Version 1:* 8/92–Present. *Version 2:* 6/91–7/92. *Version 3:* 1/90–5/91.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to perform invasive and noninvasive cardiology and critical care life support and assist the physician in cardiac catheterization. *Version 3:* Upon completion of the course, the student will be able to perform noninvasive cardiology, pulmonary function testing, and critical care life support and assist the physician in cardiac catheterization.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures, laboratories, and clinical practice cover anatomy, cross sectional anatomy, physiology, electrocardiography, pharmacology, blood gas analysis, cardiac catheterization, hemodynamic monitoring, cardiopulmonary radiography, echocardiography, and invasive cardiovascular techniques. *Version 3:* Lectures, laboratories, and clinical practice cover anatomy, cross sectional anatomy, physiology, electrocardiography, pharmacology, respiratory care, blood gas analysis, cardiac catheterization, hemodynamic monitoring, cardiopulmonary radiography, echocardiography, pulmonary function testing, invasive cardiovascular techniques, and ventilatory support.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in cardiovascular anatomy and physiology, 3 in pulmonary anatomy and physiology, 3 in cardiovascular pharmacology, 3 in arterial blood gas analysis, 4 in cardiovascular radiography, 6 in invasive cardiovascular techniques, 4 in physical science, 6 in noninvasive cardiovascular techniques, 8 in cardiac catheterization, 4 in hemodynamic monitoring, 4 in echocardiography, and 4 in electrocardiography (6/93). *Version 3:* In the lower-division baccalaureate/associate degree category, 3 in cardiovascular anatomy and physiology, 3 in pulmonary anatomy and physiology, 3 in radiography, 3 in pharmacology, 4 in mechanical ventilation, 3 in blood gas analysis, 6 in pulmonary function, 4 in critical care, 8 in cardiology, 4 in physical science, and 12 in cardiac catheterization (7/90).

NV-0709-0019

Surface Force Independent Duty Corpsman,
Class C
(Advanced Hospital Corpsman, Class C)

Course Number: *Version 1:* B-300-0019. *Version 2:* B-300-0019.

Location: School of Health Sciences, San Diego, CA; School of Health Sciences, Portsmouth, VA.

Length: *Version 1:* 50 weeks (2000 hours). *Version 2:* 46 weeks (1840 hours).

Exhibit Dates: *Version 1:* 9/91–Present. *Version 2:* 1/90–8/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will perform minor surgery, diagnostic and basic clinical laboratory procedures, emergency care, industrial hygiene and safety, health education services, and related resource dissemination. *Version 2:* Upon completion of the course, the student will perform minor surgery, diagnostic and basic clinical laboratory procedures, emergency care, industrial hygiene and safety, health education services, and related resource dissemination.

Instruction: *Version 1:* Lectures, laboratories, and clinical practice in medical and surgical topics, including record management; materials management; education and teaching methods; alcohol and drug abuse; communicable diseases; pest control and sanitation; industrial hygiene and safety; radiation safety and health; anatomy and physiology; physical assessment; pharmacology; clinical laboratory; dental procedures; basic cardiac life support; basic trauma life support; and appropriate standards of care in diagnosis, triage, and treatment. *Version 2:* Lectures, laboratories, and clinical practice cover medical and surgical topics, including record management; materials management; education and teaching methods; alcohol and drug abuse; communicable diseases; pest control and sanitation; industrial hygiene and safety; radiation safety and health; anatomy and physiology; physical assessment; pharmacology; clinical laboratory; dental procedures; basic cardiac life support; basic trauma life support; and appropriate standards of care in diagnosis, triage, and treatment.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in anatomy and physiology, 4 in clinical laboratory procedures, 3 in dental procedures, 3 in medical records, and 3 in microcomputer applications (6/93); in the upper-division baccalaureate category, 5 semester hours in physical assessment, 5 in pharmacotherapeutics, 5 in clinical pathology, 3 in sanitation and hygiene, 3 in prevention and safety, 4 in radiation health and safety, and 10 in clinical management of medical and surgical conditions (6/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in anatomy and physiology, 4 in clinical laboratory procedures, 2 in dental procedures, 2 in medical records (9/92); in the upper-division baccalaureate category, 4 semester hours in physical assessment, 4 in pharmacotherapeutics, 4 in clinical pathology, 8 in clinical practice, 2 in sanitation and hygiene, 2 in prevention and safety, 3 in radiation health, and 10 in clinical management of medical and surgical conditions (9/92).

NV-0709-0020

Electroencephalography Technician

Course Number: B-301-0043.

Location: School of Health Sciences, Bethesda, MD.

Length: 26-27 weeks (1064 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an electroencephalography technician in a health care institution, including EEG, evoked potentials, and polysomnography.

Instruction: The course of study includes lectures, discussions, laboratory practice, and extensive clinical practice in the nervous system, medical instrumentation, wave pattern interpretation, evoked potentials, and related neurological testing procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in medical instrumentation (10/90); in the upper-division baccalaureate category, 12 semester hours in clinical practice, 12 in electroencephalography, and 3 in neuroanatomy and physiology (10/90).

NV-0709-0021

1. Submarine Force Independent Duty
   Corpsman, Class C
2. Submarine Force Independent Duty
   Corpsman
3. Submarine Force Independent Duty
   Corpsman

Course Number: *Version 1:* B-300-0001. *Version 2:* B-300-0001. *Version 3:* B-300-0001.

Location: *Version 1:* Undersea Medical Institute, Bethesda Detachment, New London, Groton, CT; Submarine Base, New London, Groton, CT. *Version 2:* Submarine School, New London, Groton, CT; Undersea Medical Institute, Bethesda Detachment, New London, Groton, CT. *Version 3:* Undersea Medical Institute, Bethesda Detachment, New London, Groton, CT; Submarine Base, New London, Groton, CT.

Length: *Version 1:* 56 weeks (2168 hours). *Version 2:* 50 weeks (1995 hours). *Version 3:* 52 weeks (1982 hours).

Exhibit Dates: *Version 1:* 3/94–Present. *Version 2:* 11/91–2/94. *Version 3:* 1/90–10/91.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to provide general primary care, including clinical laboratory procedures, emergency care, health education services, radiation surveillance, physical diagnosis, and minor surgery. *Version 3:* Upon completion of the course, the student will be able to give medical care aboard nuclear and conventional submarines.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures, discussions, and clinical practice cover radiation technology, medical surveillance, clinical laboratory science, pharmacology, physical diagnosis, anatomy and physiology, medical diagnosis and treatment, clinical skills, health/medical administration, environmental and occupational health, and introduction to computer sciences. *Version 3:* Lectures, discussions, and clinical practice cover radiation technology, medical surveillance, clinical laboratory science, pharmacology, physical diagnosis, anatomy and physiology, medical diagnosis and treatment, clinical skills, health/medical administration, environmental and occupational health, and introduction to computer sciences.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in anatomy and physiology, 4 in clinical laboratory procedures, 3 in medical records, and 3 in microcomputer applications (6/93); in the upper-division baccalaureate category, 7 semester hours in radiation safety and health, 5 in pharmacotherapeutics, 5 in physical assessment, 3 in sanitation and hygiene, 3 in prevention and safety, 5 in clinical pathology, and 10 in clinical management of medical and surgical conditions (6/93). *Version 3:* In the lower-division baccalaureate/associate degree category, 3 semester hours in physics, 3 in anatomy and physiology, and 1 in computer science (10/90); in the upper-division baccalaureate category, 2 semester hours in radiation science, 8 in occupational and environmental health, 5 in health administration, 4 in clinical laboratory, 2 in pharmacology, 7 in physical diagnosis, 19 in medical diagnosis and treatment, 3 in clinical skills, and 6 in clinical rotation (10/90).

NV-0709-0022

Special Operations Technician

Course Number: A-431-0021.

Location: Special Warfare Center, San Diego, CA.

Length: 2 weeks (67-80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe anatomy and physiology as they relate to diving disorders, operate a hyperbaric chamber in the treatment of diving disorders, conduct a neurological examination and test diving accident victims according to Navy Diving Manual, and serve as a diving medical technician.

Instruction: Laboratories, lectures, and performance evaluations are course methods.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in diving medicine and treatment and 1 in hyperbaric chamber operation (3/92).

NV-0709-0023

Special Warfare Mk 15 Underwater Breathing Apparatus

Course Number: K-431-0082.

Location: Special Warfare Training Center, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to dive using Mk 15 mixed gas apparatus, set up and maintain equipment, and navigate underwater.

Instruction: Lectures and laboratory exercises using an extensive student guide are course methods.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/92).

NV-0799-0007

Navy Substance Abuse Prevention Program
(Navy Alcohol/Drug Safety Action Program (NASAP/NDSAP))

Course Number: None.

Location: Various training facilities, worldwide.

Length: 1-2 weeks (36 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To provide instruction on alcoholism and drug abuse with emphasis on personal health and responsibility.

Instruction: Discussions focus on the implications of alcohol/drug use and abuse, values clarification, decision making, stress management and coping, and personal responsibility for lifestyle choices.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in substance abuse prevention and health promotion (7/87).

NV-0799-0008

Pharmacy Technician, Class C

Course Number: B-312-0025.

Location: School of Health Sciences, San Diego, CA; School of Health Sciences, Portsmouth, VA.

Length: 23 weeks (815 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to assist physicians and pharmacists in the compounding, calculation, dispensing, and administration of pharmacological preparations.

Instruction: Lectures, discussions, and clinical practice cover the compounding, pharmacology, administration, calculation, and dispensing of a variety of preparations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in compounding, 12 in pharmacology, 3 in pharmacy administration, 4 in sterile products, 2 in clinical rotations, 3 in dispensing, 3 in computer/typing applications, and 6 in pharmaceutical calculations (7/90).

NV-0799-0009

Navy Correctional Counselors

Course Number: A-831-0002.

Location: Naval Institute of Correctional Administration, Ft. McClellan, AL.

Length: 5 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to counsel prisoners in the development of human behavior skills, communication skills, and the counseling process.

Instruction: Lectures, demonstrations, and performance exercises cover stress management, psychology of human behavior, reality therapy, group counseling, suicide risks, and mental status and terminology.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in correctional counseling and 3 in human behavior (6/92).

NV-0801-0009

Operational Water Chemistry and Radiological Controls

Course Number: L-4H-0027.

Location: Guided Missile School Detachment, Norfolk, VA; Fleet Ballistic Submarine Training Center, Charleston, SC; Submarine Base, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (73 hours).

Exhibit Dates: 1/90–1/97.

Objectives: To provide training in nuclear propulsion plant water chemistry and radiological controls with emphasis on the evaluation and solution of plant problems.

Instruction: Course covers operational water chemistry control, operational radiological control, casualty procedures, and radiological problems encountered and proposed actions.

Credit Recommendation: In the vocational certificate category, 1 semester hour in chemical technology laboratory (11/85).

NV-0801-0010

Aftercare Program Management

Course Number: S-501-0001.

Location: Training Center, New London, Groton, CT; Drug Rehabilitation Center, San Diego, CA; Training Center, Washington D.C; Training Center, Philadelphia, PA; Training Center, Pearl Harbor, HI; Training Center, Jacksonville, FL; Training Center, Yokosuka, Japan; Training Center, Rota, Spain; Training Center, Norfolk, VA.

Length: 2 weeks (70 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to assist recovering substance abusers in the process of conforming to aftercare prescription protocols, participate in the conducting of substance abuse education programs, and provide minimal support services to family members.

Instruction: Course introduces student to beginning skills in substance abuse counseling, communication, data management, interviewing, and case management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to substance abuse counseling (7/87).

NV-0801-0011

Navy Drug and Alcohol Counselor

Course Number: S-501-0002.

Location: Drug Rehabilitation Center, San Diego, CA.

Length: 10-11 weeks (400-440 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to screen and evaluate persons with substance abuse problems and determine appropriate treatment programs, conduct counseling sessions, and assist in the management of substance abuse programs.

Instruction: Methods of instruction include lecture, demonstration, video review, and group process. Topics include group development, counseling, behavior modification, substance abuse, child/spousal abuse, an abnormal psychology. A practicum is included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to psychology (7/87); in the upper-division baccalaureate category, 3 semester hours in abnormal psychology, 3 in counseling theory and practice, 3 in group process theory and practice, and 3 in substance abuse counseling (7/87).

NV-0801-0012

Shipboard Chemical, Biological, and Radiological Defense Operations and Training Specialist

Course Number: A-495-2062.

Location: Construction Training Center Detachment, Ft. McClellan, AL.

Length: 2-3 weeks (104 hours).

Exhibit Dates: 9/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to understand radiac theory; measure radiation effects using various instruments and analysis procedures; assess chemical and biological hazards; perform decontamination processes; and to train others about radiological, chemical, and biological hazard assessment and decontamination.

Instruction: Lecture and demonstration cover radiological theory, use of radiological measuring instruments, analysis of impacts of radiation, assessment of chemical and biological hazards, and performance of decontamination processes. Learners design, develop, deliver, and evaluate a learning experience on radiological, chemical, and biological hazards.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in radiological, chemical, and biological hazards containment and decontamination and 1 in instructional methods (4/97).

NV-0801-0013

Disaster Preparedness Operations Specialist

Course Number: A-494-0006.

Location: Construction Training Center Detachment, Ft. McClellan, AL.

Length: 5 weeks (200 hours).

Exhibit Dates: 4/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to manage a disaster preparedness program, including radiological, chemical, and biological hazard response procedures; assess hazards; and perform decontamination processes.

Instruction: Lecture, demonstration, and discussion cover disaster preparedness program planning and management, response procedures, use of radiological measuring instruments, analysis of impacts of radiation, chemical and biological hazard assessment, and decontamination procedures.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in disaster preparedness management, 2 in radiological hazards, 2 in biological hazards, and 2 in chemical hazards (4/97).

NV-0802-0011

Disaster Recovery Training Chemical, Biological, and Radiological

Course Number: A-494-0004.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to practice protective measures against chemical/biological agents including the use of masks, protective clothing, detection devices, decontamination equipment, chemical surveys, and warning and communications. Field exercises are also included.

Instruction: Lectures and practical exercises cover disaster preparedness for chemical/biological agents, shelters and shielding, decontamination, medical effects, and protective devices.

Credit Recommendation: In the vocational certificate category, 3 semester hours in civil defense (3/91).

NV-0802-0012

Disaster Recovery Training

Course Number: A-494-0005.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform multimedia first aid and cardiopulmonary resuscitation, describe the characteristics and effects of various types of natural disasters, tie various knots used in rescue operations, apply mechanical advantage principles, describe various types of field rigs, and use the special tools and equipment required for rescue operations.

Instruction: Lectures and practical exercises cover disaster recovery, including types and effects of various natural disasters, first aid, rescue operations, and tools and equipment used in rescue operations.

Credit Recommendation: In the vocational certificate category, 3 semester hours in civil defense (3/91); in the lower-division baccalaureate/associate degree category, 1 semester hour in basic first aid (3/91).

NV-0803-0003

Rescue Swimming Refresher, Class F1

Course Number: Q-050-0604.

Location: Helicopter Anti-Submarine Squadron One, Naval, Jacksonville, FL; Helicopter Combat Support Squadron Three Resc, San Diego, CA.

Length: 2 weeks.

Exhibit Dates: 5/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a surface rescue swimmer; using advanced swimming skills rescue swimmer equipment; perform day or night escapes and rescue from parachute water entry; and perform practical first aid and lifesaving in accordance with current American Red Cross standards.

Instruction: Lecture, laboratory, pool and open water demonstrations, practical exercises are methods used. Skill tests will be used to evaluate performance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic swimming rescue techniques, first aid, and lifesaving. This credit duplicates that of Q-050-0600 and Q-050-0500 (8/97).

NV-0803-0004

Rescue Swimmer, Class C

Course Number: Q-050-0600.

Location: Air Station, Pensacola, FL.

Length: 4 weeks (148-152 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a surface rescue swimmer, including physical conditioning, swimming skills, aircraft egress rescue swimmer equipment, day or night escapes, and rescue from parachute water entry, and perform practical first aid and lifesaving in accordance with current American Red Cross standards.

Instruction: Lecture, laboratory, pool and open water demonstrations, practical exercises are methods used, and skill tests will be used to evaluate performance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic swimming, rescue techniques, first aid, and lifesaving. This credit duplicates that in Q-050-0500 (4/98).

NV-0803-0005

Basic Water Survival Instructor

Course Number: A-012-1014.

Location: Air Station, Pensacola, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 12/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to train beginning swimmers in basic swimming and survival skills, including abandon ship procedures, flotation devices, surface and submerged burning oil; meet all requirements to be certified in first aid and CPR for the professional rescuer; meet all requirements to be basic lifeguard certified; demonstrate knowledge of sea survival, including types of naval life rafts, and their current uses; and identify high-risk elements involved in water survival.

Instruction: Lecture, laboratory, and demonstrations include pool and open water practical experiences. Both written and performance tests are used to demonstrate proficiency.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in lifesaving and water survival (8/97).

NV-0803-0006

Amphibious Reconnaissance Corpsman

Course Number: A-431-0076.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 3 weeks (119 hours).

Exhibit Dates: 7/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to properly diagnose diving related injuries; perform medical treatment due to diving casualties; perform the functions of a hyperbaric chamber operator; and prepare and complete all required diving, medical, and administrative records.

Instruction: Lectures, laboratories (including chambers), projects, written and practical examinations are methods of instruction.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in marine diving physiology (8/97); in the upper-division baccalaureate category, 2 semester hours in diving medical emergency treatment (8/97).

NV-0803-0007

Diver First Class

Course Number: A-433-0025.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 8 weeks (314 hours).

Exhibit Dates: 1/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform advanced deep air surface-supplied diving; understand the use of hyperbaric chambers and perform as a supervisory member of a recompression chamber team; supervise the certification of diving systems; act as a supervisor of diving medicine; and diagnose and treat diving sickness and accidents.

Instruction: Lectures, written examinations, chamber shams and other practical exercises, and at-sea supervisor training using scenarios cover advanced diving, diving medicine, and diving supervisor topics and skills.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in advanced scuba diving (8/97); in the upper-division baccalaureate category, 1 semester hour in diving supervision and 2 in diving medicine (8/97).

NV-0803-0008

Basic Diving Officer

Course Number: A-4N-0024.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 16 weeks (633 hours).

Exhibit Dates: 11/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect and maintain open-circuit scuba equipment; plan dives; dive using Mk 20 (Aqua Mask) and Mk 21 (Superlight 17) diving equipment; use underwater tools to perform cutting, welding, salvage, demolition, and hull maintenance procedures; apply knowledge of diving physics and medicine and advanced hyperbaric medicine.

Instruction: Lectures, written assignments, exams, informal quizzes, practical exercises, and performance tests to check job skills are methods of instruction. Part of a divemaster function is learned by on-the-job supervision.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic scuba diving, 1 in divemaster, 1 in marine diving physiology, and 1 in underwater hull husbandry (8/97).

NV-0803-0009

Marine Corps Combatant Diver

Course Number: A-433-0052.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 8 weeks (323 hours).

Exhibit Dates: 1/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform first aid and CPR; apply knowledge of diving physics and use decompression tables; identify and perform initial treatment for diving diseases and injuries; operate, under supervision, hyperbaric chamber; function as a diver/team member for open-circuit scuba lung automatic regenerated V underwater breathing apparatus; and perform bottom and hull inspections.

Instruction: Lectures, laboratories, tank and open water projects, and written and performance tests are methods of instruction.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic scuba and 2 in advanced scuba (8/97).

NV-0803-0010

Medical Deep Sea Diving Technician

Course Number: A-433-0020.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 24 weeks (960 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform first aid and CPR; apply knowledge of diving physics and use decompression tables; operate a hyperbaric chamber; function as a diver/dive team member for open-circuit scuba operations including maintenance of equipment; dive with shallow water surface-supplied (Mk 20/Aqua Mask) air equipment; dive with deep water surface-supplied (Mk 21/Superlight 17) air equipment; use hydraulic and hand tools safely; perform hull and ship appendage inspections including cleaning; perform underwater cutting using appropriate techniques and observing safety precautions; diagnose and treat diving accidents and injuries; perform patient evaluation including neurological/examinations; and perform necessary diving medical administration.

Instruction: Lectures, laboratories, tank, open water, and medical emergency projects, and performance tests and evaluations of medical problems are methods of instructions.

Credit Recommendation: In the vocational certificate category, 6 semester hours in marine diving technology (8/97); in the lower-division baccalaureate/associate degree category, 2 semester hours in basic scuba, 2 in advanced scuba, 2 in lightweight surface supplied diving, 2 in helmet/deep surface supplied diving, 3 in underwater ships husbandry including hull and appendage inspection and cleaning, and 3 in underwater cutting (8/97); in the upper-division baccalaureate category, 1 semester hour in marine diving physiology (8/97).

NV-0803-0011

Diver Explosive Ordnance Disposal

Course Number: A-431-0083.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 13 weeks (487 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Before 9/96 see NV-2202-0151. Upon completion of the course, the student will be able to apply knowledge of basic physics, diving medicine, and decompression tables to the diving process; qualify as an explosive ordnance disposal diver underwater on three breathing apparatus rigs: scuba, Mk 21 (Superlight 17), and Mk 16 (underwater rebreathing apparatus); and perform underwater search techniques.

Instruction: Lectures, discussion, physical conditioning, written tests and underwater performance evaluation cover underwater breathing apparatus certification on three diving rigs and basic underwater search techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic scuba diving and 3 in advanced scuba diving (8/97).

NV-0803-0012

Aircrewman Candidate, Class A

Course Number: Q-050-1500.

Location: Air Station, Pensacola, FL.

Length: 5 weeks (186 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate competence and mastery in aircraft operations and survival of aviation mishaps using personal performance skills, management of aircraft equipment, and lifesaving skills.

Instruction: The course utilizes lecture and demonstration (practice and evaluation) in aircraft equipment, and personal fitness, wellness, and survival techniques. Students also must successfully complete survival exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in outdoor safety and survival, 3 in physical training, and 2 in lifesaving (8/97).

NV-0803-0013

Surface Rescue Swimmer

Course Number: Q-050-0500.

Location: Air Station, Jacksonville, FL; Fleet Training Center, San Diego, CA; Air Station, Pensacola, FL.

Length: 4 weeks (148 hours).

Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will perform as a surface rescue swimmer. Duties include physical conditioning, swimming skills, rescue swimmer equipment, day or night escapes and rescue from parachute water entry; and perform will practicum first aid and lifesaving in accordance with current American Red Cross course standards.

Instruction: Lecture, laboratory, pool and open water demonstrations, practical exercises and skill tests will be used to evaluate performance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic swimming, rescue techniques, first aid and life saving. This credit duplicates that in Q-050-0600 (8/97).

NV-0804-0001

Basic Underwater Demolition/SEAL Training

Course Number: K-431-0024.

Location: Special Warfare Center, San Diego, CA.

Length: 25 weeks (1000 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to treat basic first aid illnesses and injuries as prescribed by the American Red Cross, apply basic physical training safety regulations, improve cardiovascular fitness through an extensive running program, improve overall muscular fitness, improve cardiovascular fitness through an extensive swimming program, perform in a stressful aquatic setting in a safe and efficient manner, perform rescue techniques, perform drown proofing techniques, use handguns safely and accurately, recognize diving disorders and effects of pressure, apply diving physics, perform free ascent, perform free descent; use open-circuit diving equipment, practice safety precautions in accordance with the Navy Diving Manual, complete repetitive dives following Navy procedures, and recognize dangers in marine environments.

Instruction: Lectures and practical exercises include firing range practice and diving. Tests are written and performance based.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in physical fitness and conditioning, 1 in aquatic fitness, 1 in marksmanship, and 2 in scuba techniques (3/92).

NV-0804-0002

Special Warfare Diving Equipment Maintenance and Repair

Course Number: K-431-0050.

Location: Special Warfare Training Center, San Diego, CA.

Length: 3 weeks (100 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, repair, and calibrate scuba (open circuit and mixed-gas) equipment, including tanks, regulators, and buoyancy compensators/life jackets using the Navy Diver's manual and equipment manufacturer's technical data. Student would qualify for scuba maintenance certificate.

Instruction: Lectures and laboratories use the Navy Diver's Manual and appropriate manufacturer's technical manuals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in scuba equipment maintenance certification (3/92).

NV-1002-0002

Builder Tool and Equipment Maintenance Technician
(Builder Tool and Equipment Maintenance)

Course Number: A-712-0010.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: 9 weeks (351-360 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, repair, and maintain carpenter and shop equipment and blade reconditioning equipment; repair and recondition gasoline engine driven hand tools; recondition blades, knives, and bits for carpenter shop tools and equipment; and establish preventive maintenance schedules.

Instruction: Lectures, audiovisuals, and extensive laboratory exercises cover preventive maintenance, reconditioning, and repair of carpenter shop machinery and builder hand tools.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in shop equipment and tool repair and maintenance and 2 in shop safety (4/97).

NV-1107-0001

Strategic Weapons System (SWS) Electronic Mathematics

Course Number: A-121-0482.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To provide naval personnel with the basic technical mathematics skills needed to perform required duties.

Instruction: Lectures and practical exercises cover technical mathematics, including whole numbers, fractions, decimals, signed numbers, exponents, roots, radicals, ratios, proportions, percentages, algebraic formulae, use of nonprogrammable calculators, trigonometric functions, Pythagorean theorem, Cartesian coordinates, vectors, complex numbers, plane vectors, vector algebra, and algebraic expressions.

Credit Recommendation: In the vocational certificate category, 3 semester hours in technical mathematics (11/83); in the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics (11/83).

NV-1107-0002

Ship's Inertial Navigation System (SINS) Theory and Analysis

Course Number: *Version 1:* A-193-0370. *Version 2:* A-193-0370.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: *Version 1:* 2 weeks (51 hours). *Version 2:* 1-2 weeks (55-56 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate a ship's inertial navigation system. *Version 2:* Upon completion of the course, the student will be able to operate a ship's inertial navigation system.

Instruction: *Version 1:* Lectures and practical exercises cover the ship's inertial navigation system. *Version 2:* Lectures and practical exercises cover the ship's inertial navigation system.

Credit Recommendation: *Version 1:* In the vocational certificate category, 1 semester hour in mathematics/physics (4/96). *Version 2:* Credit is not recommended because of the limited, specialized nature of the course (10/89).

NV-1205-0001

Music, Class A, Basic
(Basic Course, Class A)
(Naval School of Music, Class A, Basic)
(Bandsman Basic (Army))

Course Number: 450-F1; A-450-0010.

Location: School of Music, Little Creek, Norfolk, VA.

Length: 23 weeks (416-602 hours).

Exhibit Dates: 1/90–9/92.

Objectives: After 9/92 see NV-1205-0009. To provide Navy musicians with essential performance skills and with basic knowledge of theory, harmony, and ear training for purposes of instrumental technique improvement.

Instruction: Course covers fundamental notation; directions for performance and dance band devices; elementary phrase and triad construction; transposition and instruments; dance band notation reading; marching signal recognition; tuning, ensemble, and sight reading; marching position and drills; elements of music including aural and written rhythms and tonal relationships; transposing; self-study discipline and private instruction; and indoctrination in the history, structure, and procedures of Navy School of Music.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in elementary theory/harmony (excluding four part writing), 1 in ear training/sight singing, 2 in jazz theory/improvisation, 2-4 in applied performance (individual instruction) (2/79); in the upper-division baccalaureate category, 2 semester hours in performing ensembles (2/79).

NV-1205-0002

Music Advanced, Class C7
(Assistant Bandleader)
(Music, Class B, Advanced)
(Advanced, Class B)

Course Number: A-450-0014.

Location: School of Music, Amphibious Base, Norfolk, VA; School of Music, Little Creek, Norfolk, VA.

Length: 40 weeks (1200 hours).

Exhibit Dates: 1/90–6/91.

Objectives: After 6/91 see NV-1205-0006. To train student bandleaders to plan and prepare a Navy unit band for any of its wide variety of commitments, conduct with skill any engagement performed by a Navy unit band; effectively administer a Navy unit band; plan and conduct an effective in-service training program; apply the correct procedures for supplying a Navy unit band with instruments and accessories; arrange music for a band and its components; perform basic fundamentals on all band instruments; make minor repairs on all band instruments; and provide the student bandleader with training in the theories, principles, and mechanics of conducting; the importance and methods of good band administration; the techniques of arranging; and the theories of advanced harmony.

Instruction: The course comprises block courses in band administration, including instruction in band locations, leader billet allowance, organization and instrumentation, regulations, instrument supply, and personnel records; basic repair of wind instruments; advanced band management including personnel and public relations; advanced band administration, covering rules for ceremonies, reviews, parades, and presentations; instrument class, covering performance on percussion, woodwind, and brass instruments: drum majoring, covering baton and instrument positioning and general principles of marching bands; advanced arranging, including instruction on notation, melodic and harmonic analysis, instrumentation, principles of scoring and styles, and project completion and analysis; advanced ear training, including instruction in aural recognition, sight singing of diatonic melodies, scale fingering, basic keyboard harmony, and solfeggio, melodic, and harmonic dictation; advanced harmony, covering a review of basic harmony, secondary dominants, chromatically altered chords, and advanced modulation; advanced dance band rehearsal techniques, including performance devices, rehearsal techniques, materials, physical setup and transportation, and dance band literature; advanced conducting, including rehearsal psychology, choral and accompaniment techniques, complex beat patterns, showmanship, and practical experience conducting from a full score; rehearsal planning and techniques, covering practical application of conducting skills during daily rehearsals; advanced leadership and speech, covering basic leadership skills, public speaking, and military subjects; and dance band rehearsal techniques, including practical application of all rehearsal techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in advanced theory/harmony/ear training, 1 in elementary class piano, and 1 in instrument techniques (brass, woodwind and percussion) (2/79); in the upper-division baccalaureate category, 4 semester hours in advanced arranging, 4 in advanced conducting, 3 in dance band techniques, 3 in band management as an elective, 2 in public speaking, and 3 in personnel management as an elective (2/79); in the graduate degree category, 2 semester hours in advanced conducting based on institutional evaluation (2/79).

NV-1205-0003

Music Intermediate, Class C-1
(Music Intermediate, Class C)
(Music, Class C, Refresher)
(Naval School of Music, Class C, Refresher)

Course Number: 450-F2; A-450-0012.

Location: School of Music, Little Creek, Norfolk, VA.

Length: 23 weeks (960 hours).

Exhibit Dates: 1/90–12/90.

Objectives: After 6/91 see NV-1205-0008. To advance performance skills and to provide student musicians with a refresher course in the proper care of musical instruments; development of effective approaches to tone production and techniques; knowledge of written and sounding ranges of all instruments of the band; transposition of melodies for all instruments of the band; basic mechanics of transcribing and scoring for military marching and dance bands; performance of baton signals and positions; methods of aligning and maneuvering marching bands on fields; techniques of conducting beat patterns at varying dynamic levels; and basic knowledge of music theory, harmony, and sight singing; and to prepare student musicians for the leadership of concert, marching, or dance bands.

Instruction: The course comprises block courses in individual instrument instruction and individual practice, including instruction designed to fit the capabilities of each student and technical instruction in embouchure formation, breathing, attack and release, tone, intonation, articulation, flexibility, instrumental and dynamic range, rudiments, and sight reading; theory, harmony, ear training, covering a review of music theory and analysis, four-part writing, figured bass for dealing with triad inversions, dominant seventh chords, secondary triads, chord progressions, nonharmonic tones, diatonic seventh, higher dominant discords, simple modulation, and secondary dominant chords; instrumentation, covering the unique properties and scoring problems of each instrument of the band through discussion of theoretical practice, part and score analysis, and simple scoring for small groups of instruments; arranging, covering scoring for woodwind choirs, brass choirs, marching bands, and dance bands; drum majoring, including baton signals and their use in marching formations; conducting, including basic beat patterns, preparatory beats, tempo changes, and honors music; leadership, including principles of leadership, command responsibilities, and special functions of petty officers; concert band, including rehearsals of standard and current publications for military and concert bands; and dance band, including rehearsals of standard and current publications for dance bands.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 8 semester hours in intermediate theory/harmony/ear training; 2 in applied music (individual instruction on principle instrument); 1 in applied music, woodwind, percussion, or brass (secondary instrument), 2-4 in concert performing ensembles, and 2 in marching band (2/79); in the upper-division baccalaureate category, 2-3 semester hours in instrumental arranging and 1 in elementary conducting (2/79).

NV-1205-0006

Enlisted Bandleader

Course Number: *Version 1:* A-450-0014. *Version 2:* A-450-0014.

Location: School of Music, Little Creek, Norfolk, VA.

Length: *Version 1:* 21 weeks (740 hours). *Version 2:* 17 weeks (680 hours).

Exhibit Dates: *Version 1:* 7/91–Present. *Version 2:* 1/91–6/91.

Learning Outcomes: *Version 1:* Before 7/91 see NV-1205-0002. Upon completion of the course, the student will be able to prepare a military band for any of its wide variety of commitments; conduct with skill any engagement performed by a military band; effectively administer a military band; apply the correct procedures for supplying a band with instruments and accessories; arrange music for a band and its components; perform basic fundamentals on all band instruments; and exhibit an understanding of the theories, principles, and mechanics of conducting; the importance and methods of good band administration; the techniques of arranging; and the theories of advanced harmony. *Version 2:* Upon completion of the course, the student will be able to plan and prepare a military band for any of its wide variety of commitments; conduct with skill any engagement performed by a military band; effectively administer a military band; apply the correct procedures for supplying a band with instruments and accessories; arrange music for a band and its components; perform basic fundamentals on all band instruments; and exhibit an understanding of the theories, principles, and mechanics of conducting; the importance and methods of good band administration; the techniques of arranging; and the theories of advanced harmony.

Instruction: *Version 1:* The course comprises block courses in band administration, including instruction in band locations, leader billet allowance, organization, instrumentation, regulations, instrument supply, personnel records, and audition procedures; advanced band administration, including rules for ceremonies, reviews, parades, concert performances, and presentation and general principles of marching bands; advanced arranging, including instruction on notation, melodic and harmonic analysis, instrumentation, principles of scoring and styles, and project completion and analysis; advanced ear training, including instruction in aural recognition, sight singing of diatonic melodies, scale fingering, basic keyboard harmony, and solfeggio, melodic, and harmonic dictation; advanced harmony, covering a review of basic harmony, secondary dominants, chromatically altered chords, and modulation; advanced dance band rehearsal techniques, including materials, physical setup and transportation, and dance band literature; advanced conducting, including rehearsal psychology, complex beat patterns, showmanship, and practical experience conducting from a full score; rehearsal planning and techniques including practical application of conducting skills during daily rehearsals; and advanced speech. *Version 2:* The course comprises block courses in band administration, including instruction in band locations, leader billet allowance, organization, instrumentation, regulations, instrument supply, and personnel records, and audition procedures; advanced band administration, including rules for ceremonies, reviews, parades, concert performances, and presentation and general principles of marching bands; advanced arranging, including instruction on notation, melodic and harmonic analysis, instrumentation, principles of scoring and styles, and project completion and analysis; advanced ear training, including instruction in aural recognition, sight singing of diatonic melodies, scale fingering, basic keyboard harmony, and solfeggio, melodic, and harmonic dictation; advanced harmony, covering a review of basic harmony, secondary dominants, chromatically altered chords, and modulation; advanced dance band rehearsal techniques, including materials, physical setup and transportation, and dance band literature; advanced conducting, including rehearsal psychology, complex beat patterns, showmanship, and practical experience conducting from a full score; rehearsal planning and techniques including practical application of conducting skills during daily rehearsals; and advanced speech.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 6-8 semester hours in advanced theory/harmony/ear training and 1 in elementary class piano (2/93); in the upper-division baccalaureate category, 4 semester hours in advanced arranging, 4 in advanced conducting, and 1 in public speaking (2/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 4-6 semester hours in theory/harmony/ear training and 1 in elementary class piano (2/93); in the upper-division baccalaureate category, 4-6 semester hours in advanced arranging, 4 in advanced conducting, and 1 in public speaking (2/93).

NV-1205-0007

Music Preparatory, Class AP

Course Number: A-450-0015.

Location: School of Music, Little Creek, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify pitches and rhythms; construct and identify major and minor scales, intervals, and triads; perform transposition; construct melodies; vocally reproduce and score musical notation to sound; perform in military concert and stage band; perform instrumental technical and flexibility exercises; prepare solos, etudes, and instrumental/vocal related literature; and interpret different musical styles. Students will be able to play Grade III music for concert band, stage band, military marching band, and solo performance as well as musical selections on assigned major instrument at the 2.0 level or above.

Instruction: Topics covered in theory include grand staff, notation, rhythm and meter, major and minor scales, and key signatures. Topics covered in the band performance techniques portion of the course include individual instrumental instruction, basic ensemble performance techniques, and sight reading.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in elementary music theory and 1 in band performance (2/93).

NV-1205-0008

1. Section Leader, Class C1
2. Music Intermediate, Class C

Course Number: *Version 1:* A-450-0012. *Version 2:* A-450-0012.

Location: School of Music, Little Creek, Norfolk, VA.

Length: *Version 1:* 21 weeks (801-840 hours). *Version 2:* 17 weeks (544 hours).

Exhibit Dates: *Version 1:* 7/91–Present. *Version 2:* 1/91–6/91.

Learning Outcomes: *Version 1:* Before 7/91 see NV-1205-0003. Upon completion of the course, the student will be able to play musical selections on assigned major and minor instruments at the 2.9 level or above for major instrument and 2.7 or above for minor instrument (using a 4-point scale with 4 being the highest level); play in concert band, military marching band, stage band, popular music combo, improvisational application, and solo performance; rehearse, at the 2.7 level or above, an ensemble section and a small popular music combo using effective rehearsal techniques; assemble and guide, at the 2.7 level or above, a military marching band performing music, including the US national anthem, honors, and marches through a parade and stationary ceremony, while using oral commands, mace signals, and basic conducting techniques; produce a usable, original, four-horn musical arrangement at the 2.7 level or above; apply, at the 2.7 level or above, principles and guidelines contained in appropriate directives, manuals, and references to military band administration procedures. *Version 2:* Before 1/91 see NV-1205-0003. Upon completion of the course, the student will be able to play musical selections on assigned major and minor instruments at the 2.9 level or above for major instrument and 2.7 or above for minor instrument (using a 4-point scale with 4 being the highest level); play in concert band, military marching band, stage band, popular music combo, improvisational application, and solo performance; rehearse, at the 2.7 level or above, an ensemble section and a small popular music combo using effective rehearsal techniques; assemble and guide, at the 2.7 level or above, a military marching band performing music, including the US national anthem, honors, and marches through a parade and stationary ceremony, while using oral commands, mace signals, and basic conducting techniques; produce a usable, original, four-horn musical arrangement at the 2.7 level or above; apply, at the 2.7 level or above, principles and guidelines contained in appropriate directives, manuals, and references to military band administration procedures.

Instruction: *Version 1:* Topics include instrumental instruction, ear training (syncopation, subdivision, diatonic, and modal melodies), instrumental voicing techniques (traditional figured bass, chord progression analysis, chord scales, rhythm section scoring, concept of three-horn writing, principles of four-way voicing), improvisation (diatonic and modal progressions, song analysis, diminished seventh chords, altered chords, solo improvisation), applied concert band rehearsal and performance, applied stage band rehearsal performance, drill band, drum majoring, section leader rehearsal techniques, ceremonial conducting, band administration, supervised instrumental practice, and concert performance. *Version 2:* Topics include instrumental instruction, ear training (syncopation, subdivision, diatonic, and modal melodies), instrumental voicing techniques (traditional figured bass, chord progression analysis, chord scales, rhythm section scoring, concept of three-horn writing, principles of four-way voicing), improvisation (diatonic and modal progressions, song analysis, diminished seventh chords, altered chords, solo improvisation), applied concert band rehearsal and performance, applied stage band rehearsal performance, drill band, drum majoring, section leader rehearsal techniques, ceremonial conducting, band administration, supervised instrumental practice, and concert performance.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 8 semester hours in intermediate theory/harmony/ear training, 2 in applied music (private instruction on instrument), 1 in applied music on secondary instrument (woodwind, brass, or percussion), 2-4 in concert performing ensembles, and 2 in marching band (2/93); in the upper-division baccalaureate category, 2 semester hours in instrumental arranging and 2 in conducting (2/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 8 semester hours in theory/harmony/ear training, 1 in applied music (private instruction on instrument), 2 in concert performing ensembles, and 1-2 in marching band (2/93); in the upper-division baccalaureate category, 2 semester hours in conducting (2/93).

NV-1205-0009

Music Basic

Course Number: A-450-0010.

Location: School of Music, Little Creek, Norfolk, VA.

Length: 23 weeks (709-960 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Before 10/92 see NV-1205-0001. Upon completion of the course, the student will be able to play grade IV music (for major instrument) and grade III-IV music (for minor instrument) for concert band, stage band, military marching band, popular music combo, improvisational application, and solo performance. Student will also be able to play musical selections on assigned major and minor instruments at the 2.7 level or above for major instrument and 2.5 level or above for minor instrument.

Instruction: Topics in theory include fundamental notation; major and minor scales; intervals, triads, and inversions; transposition; cadences; nonharmonic tones; melody construction; seventh chords; altered chords; rhythmic and melodic organization; ear training; and sight singing. Topics in applied performance include instrumental instruction, band rehearsal, sight reading in concert band repertoire, and maintenance and tuning of instruments. Topics in jazz theory include swing rhythm, popular music combo techniques, lead sheets, popular song forms, simple arranging and improvisation, and analysis of popular forms.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in music theory, 2 in ear training/sight singing (musicianship), 2-4 in applied performance, and 1 in jazz theory and improvisation performance (2/93).

NV-1303-0001

Machinist's Mate, Class A1 (600 PSI)

Course Number: A-651-0015; A-651-0082.

Location: Service School Command, Great Lakes, IL.

Length: Self-paced, 4 weeks (160 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train personnel in the basic operation of high-pressure steam plants and associated equipment.

Instruction: Lectures and practical exercises cover the duties of machinist's mates, including refrigeration, auxiliary plant operation, lubrication, and propulsion systems. Self-paced instruction includes steam turbines, turbo-generators, and duties of watchstanding.

Credit Recommendation: In the vocational certificate category, 3 semester hours in steam plant orientation (1/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in steam plant orientation (1/82).

NV-1303-0002

Machinist's Mate, Class A1 (1200 PSI)

Course Number: A-651-0015; A-651-0053.

Location: Service School Command, Great Lakes, IL.

Length: 9 weeks (277 hours).

Exhibit Dates: 1/90–12/90.

Objectives: To train personnel in the operation of a steam propulsion plant.

Instruction: Lectures and practical exercises cover the principles, operation, and maintenance of a high-pressure steam propulsion plant, including boilers, combustion theory, steam systems, water chemistry, lubricating oil systems, electrical systems, and fire fighting systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic marine engineering or 3 in power plant fundamentals (1/86).

NV-1303-0003

AN/AVR-2 Laser Detecting Set (LDS)
Intermediate Level Maintenance

Course Number: C-102-4023.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 12/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, repair, maintain, test, and troubleshoot the AN/

AVR-2 laser detecting set and the TS-4321/AVR-2 laser detecting test set.

Instruction: Course covers laser function, purpose, safety, and theory of operation including ESD sensitive handling and materials. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in applied physics (7/94).

NV-1304-0007

Ocean Systems Technician Equipment Maintenance

Course Number: A-130-0241.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 23 weeks (920 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train personnel in the operation, theory, maintenance, and troubleshooting of a variety of computer subsystems and peripherals.

Learning Outcomes: Upon completion of this course, the student will be able to maintain, test, and repair computer systems; test and repair computer peripherals, including terminals, disk drives, printers, and multiplexers; and perform routine maintenance on computers and peripherals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer system troubleshooting, maintenance, and repair and 3 in computer peripheral devices (8/83).

NV-1304-0008

Ocean Systems Operational Procedures Officer

Course Number: S-2G-0405.

Location: Readiness Training Facility, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to oversee the integrated undersea surveillance system.

Instruction: Lectures and practical exercises cover topics specific to the surveillance system, including communications, data and signal processing equipment interface, and watch coordination. Only units 1, 5, and 6 were evaluated; the remainder of the course is classified.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1304-0009

Ocean Systems Operational Procedures Enlisted

Course Number: S-210-0400.

Location: Readiness Training Facility, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a specific undersea surveillance system.

Instruction: Lectures and practical exercises relate to the operation of the undersea surveillance system. Topics include signal flow, operations, message receipt and routing, and plot and status board operations. Only units 1, 5, and 6 were evaluated; the remainder of the course is classified.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1304-0010

Ocean Systems Advanced Acoustics

Course Number: S-210-0401.

Location: Readiness Training Facility, Virginia Beach, VA.

Length: 14 weeks (560 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to tactically deploy signal and data processing equipment and apply basic mathematical models (logarithms and Fourier series) to the analysis of sound wave propagation in seawater.

Instruction: Lectures and practical exercises cover mathematics, basic oceanography, equipment signal flow, automated data processing, and acoustic signal analysis. Topics also include statistical means, standard deviation, Fourier series, characteristics of seawater, and sound wave propagation in sea water. Only units 1-33 were evaluated. The remaining units were classified.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics (3/90); in the upper-division baccalaureate category, 3 semester hours in ocean acoustics (3/90).

NV-1304-0011

Meteorological Equipment Maintenance, Class C1, USMC

Course Number: C-198-3899.

Location: Naval Detachment, Chanute AFB, IL.

Length: 14-15 weeks (488 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain selected meteorological and oceanographic equipment, aboard ship and at naval shore activities, with minimal supervision.

Instruction: Lectures and practical exercises cover logic circuits, the maintenance and repair of facsimile receivers, surface observation equipment, runway visibility equipment, weather radars, soldering, weather satellites, and weather data recorders.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting and maintenance and 4 in computer systems troubleshooting and maintenance (3/91).

NV-1304-0012

1. Aerographer's Mate, Class A1
   (Marine Corps Weather Observer)
2. Aerographer's Mate, Class A1 (Navy unique portion)

Course Number: *Version 1:* C-420-2010; E3ABR1WO31 008. *Version 2:* C-420-2010.

Location: *Version 1:* Technical Training Unit, Keesler AFB, MS. *Version 2:* Navy Detachment, Chanute AFB, IL.

Length: *Version 1:* 11-12 weeks (472 hours . *Version 2:* 5-6 weeks (214 hours).

Exhibit Dates: *Version 1:* 10/92–Present. *Version 2:* 1/90–9/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have the knowledge and skills to understand basic meteorology/oceanography and to observe, record, and analyze weather and oceanographic elements as necessary for naval operations. *Version 2:* Upon completion of the course, the student will be able to observe, record, and analyze weather and oceanographic elements as necessary for naval operations.

Instruction: *Version 1:* Instruction includes studies in basic meteorology; techniques of weather observation; recording and transmission of weather data; operation of communications equipment; decoding and plotting of surface and upper air codes; use of meteorological satellite data; basic oceanography, including oceanographic circulation, temperature profiles, and surface distribution; sea states; sound and electromagnetic propagation; encoding and analysis of bathythermographic data; and mixed layer depths. *Version 2:* Instruction includes studies in basic meteorology; techniques of weather observation; recording and transmission of weather data; operation of communications equipment; decoding and plotting of surface and upper air codes; use of meteorological satellite data; basic oceanography, including oceanographic circulation, temperature profiles, and surface distribution; sea states; sound and electromagnetic propagation; encoding and analysis of bathythermographic data; and mixed layer depths.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 6 semester hours in basic meteorology, 2 in basic physical oceanography; for Navy personnel only 3 in meteorological observations or for Marine Corps personnel only, 4 in basic weather observations (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in basic meteorology, 1 in meteorological observation, and 2 in basic physical oceanography (3/91).

NV-1304-0013

1. Aerographer's Mate, Class C1
   (Meteorological and Oceanographic Analyst/Forecaster)
2. Aerographer's Mate, Class C1 (Navy unique portions)

Course Number: *Version 1:* C-420-2011; 3AAR1W70 009. *Version 2:* C-420-2011.

Location: *Version 1:* Technical Training Unit, Keesler AFB, MS. *Version 2:* Naval Detachment, Chanute AFB, IL.

Length: *Version 1:* 31 weeks (1272 hours). *Version 2:* 10 weeks (404 hours).

Exhibit Dates: *Version 1:* 10/92–Present. *Version 2:* 8/90–9/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to obtain and use meteorological and oceanographic data to provide necessary environmental data for manual operations conducted at sea, in flight, and during times of war. *Version 2:* Upon completion of the course, the student will be able to obtain and use meteorological and oceanographic data to provide necessary environmental forecasts for naval operations.

Instruction: *Version 1:* Lectures, discussions, demonstrations, and performance are methods of instruction. Topics include atmospheric physics, physical oceanography, skew-

T analysis, climatology, weather analysis, radar and satellite interpretation, oceanography, severe weather analysis, advanced Doppler radar, tropical weather systems, forecast weather elements, warfare operations, tropical/southern hemisphere analysis, aviation weather, tactical environmental support system operations, and atmospheric dynamics. *Version 2:* Lectures and practical exercises cover marine and aviation weather forecasting, analysis of tropical/southern hemisphere weather, typical warfare operations, equipment hazards and personnel safety, general study of the oceans, hydroacoustics, and techniques for weather briefing.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 in climatology, 3 in warfare operations, 4 in weather forecasting, 3 in aviation weather, 2 in atmospheric physics, and 2 in marine acoustics; for Navy personnel only, 3 semester hours in applied physical oceanography or 2 in computer applications Marine Corps personnel only (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in applied physical oceanography, 3 in aviation weather, and 3 in climatology (3/91); in the upper-division baccalaureate category, 3 semester hours in applied marine acoustics (3/91).

NV-1304-0014

Aerographer's Mate, Class C1, Weather Forecaster USMC (Navy/Marine Corps unique portion)

Course Number: C3AAR2517 007.

Location: Navy Detachment, Chanute AFB, IL.

Length: 6-7 weeks (275 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to obtain and use meteorological and oceanographic data to provide environmental forecasts for Navy and Marine Corps operations.

Instruction: Lectures and practical exercises cover the analysis of tropical/southern hemisphere weather systems, aviation weather, special warfare operations, general physical oceanography, hydroacoustics, use of radar, and instruction to enable student to provide marine and climatological briefings.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in applied physical oceanography, 3 in aviation weather, and 3 in climatology (3/91); in the upper-division baccalaureate category, 3 semester hours in applied marine acoustics (3/91).

NV-1304-0015

Technical Training Marine Corps Weather Observer PIBAL Equipment and Operation

Course Number: C3ABR25130 003.

Location: Naval Detachment, Chanute AFB, IL.

Length: 7-8 weeks (430 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to make necessary observations and encode and transmit, as well as receive and decode, oceanographic and meteorological data necessary for Navy/Marine Corps operations.

Instruction: Instruction includes lectures and practical exercises in the use of most standard types of weather instrumentation, such as a weather station, wind recorders, wind speed/direction sensors, precipitation recorders, psychrometric computers, electric and hand-operated psychrometers for measurement of relative humidity, barographic instrumentation, cloud height measuring systems, printers, transmissometers for visibility determination, as well as miscellaneous auxiliary equipment. Instruction also includes lectures on basic oceanography, weather parameters, and use of codes for transmission of data.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in applied weather radar, 2 in basic meteorological oceanography, and 3 in weather observation (3/91).

NV-1304-0016

Basic Oceanography Accession Training

Course Number: S-5A-0011.

Location: Construction Training Center, Gulfport, MS.

Length: 11 weeks (392 hours).

Exhibit Dates: 5/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the present state of the atmosphere and ocean (nowcast) using proper technical terms and brief others on the probable future state (forecast) using computer output from a central forecast facility. In addition, the student will be familiar with basic concepts in bathymetry and associated methods of marine surveying, submarine acoustics, and satellite/surface remote sensing technology.

Instruction: Instruction is basic classroom lectures supplemented by laboratory exercises in short-range (time) oceanographic and meteorological forecasting. Regular written examinations and oral practicums are given.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology and 2 in oceanography (5/95).

NV-1304-0017

Reserve Aerographer's Mate Forecaster Module A

Course Number: R-420-0003.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use the basic concepts and characteristics of oceanic circulation and sound; propagation; climatology; air masses; fronts and primary frontal zones; surface and upper air analysis of plotted charts; atmospheric stability; and interpretation of codes, messages, and facsimile charts required for aviation weather briefings. Student will analyse and interpret data and brief people on surface and upper air weather features.

Instruction: Course consists of 70 hours of lecture and 10 hours of laboratory. Topics covered include oceanography and hydroacoustic concepts, meteorology, analysis, Skew-T, codes and facsimile charts, satellites, and briefing techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in synoptic meteorology laboratory. Credit should be granted only after successful completion of modules A, B, C, and D, for a total of 4 laboratory credits (5/95).

NV-1304-0018

Reserve Aerographer's Mate Forecaster Module B

Course Number: R-420-0004.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will understand Skew-T; use computers to analyze and predict weather; understand and be able to identify voracity, convergence/divergence, warm/cold air advection, and their relationships to horizontal and vertical air motions; describe numerical modeling and regional area forecast systems; describe pressure systems and fronts; determine air system movement empirical aids for constructing prognoses of synoptic features based on movement and intensity; describe the basic feature of satellite imagery; identify basic concepts of severe convective weather systems; and understand the basics of electro-optics, refractivity, topical meteorology, and TESS (3).

Instruction: Lecture and laboratory instruction cover Skew-T, analysis and forecasting of air systems, convergence/divergence, advection, air movement effects, atmospheric waves, blocking and cut-off systems, surface/upper air systems, satellites, severe weathers, and new equipment/instrumentation. Performance evaluations and criterion tests are required.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in synoptic meteorology laboratory. Credit should be granted only after successful completion of modules A, B, C, and D, for a total of 4 laboratory credits (5/95).

NV-1304-0019

Reserve Aerographer's Mate Forecaster Module C

Course Number: R-420-0005.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to brief others on current synoptic weather conditions; forecast visibility, precipitation, surface winds, and pressure, on short time scales; assemble aviation weather information; and issue weather warnings based on centralized forecasts.

Instruction: Instruction is basic classroom lectures supplemented by laboratory exercises in decoding weather data, using standard computer programs, and issuing forecasts. Regular written examinations and oral practicums are given.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in synoptic meteorology laboratory. Credit should be granted only after successful completion of modules A, B, C, and D, for a total of 4 laboratory credits (5/95).

NV-1304-0020

Reserve Aerographer's Mate Advanced Forecaster Module D

Course Number: R-420-0006.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 2/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use automated meteorology systems, including CONTEL meteorological workstation, PCGRAFAX, and the naval satellite display system; be familiar with meteorological/oceanographic products provided by regional oceanography centers; describe principles and uses of hydroacoustics and operational oceanography; use computer-generated products; recognize and forecast tropical weather systems; interpret weather satellite data; and have a basic familiarity of NEXRAD radar and use of the SHARP workstation.

Instruction: Lectures and laboratory instruction cover meteorological systems, meteorological/oceanographic computer-generated products, environmental services, operational oceanography, tropical weather systems, satellite interpretation, radar systems, and SHARP workstation. Course includes criterion tests.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in synoptic meteorological laboratory. Credit should be granted after successful completion of modules A, B, C, and D, for a total of 4 laboratory credits (5/95).

NV-1401-0004

Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures

Course Number: A-542-0012.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Objectives: Upon completion of the course, the student will be able to maintain military pay records, including leave and earnings statements, personnel financial records, and pay entitlements.

Instruction: Lectures and performance tests include the filling-out and maintaining of pay forms and transfers.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (12/89).

NV-1401-0005

Senior Disbursing Clerk Enlisted Refresher

Course Number: A-542-0015.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will perform duties of a disbursing clerk in processing travel and payments, disbursing military pay and allowances, processing financial returns, and maintaining the cashbook.

Instruction: Classroom lectures, discussions, workbook exercises, quizzes, and a final exam cover organization of the Navy pay and accounting system including supporting publications, public vouchers, foreign currency conversion, financial returns, automated military pay disbursing system, military leave, and travel payments and allowances.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in accounting procedures (military pay and allowances) (12/89).

NV-1401-0006

Disbursing Clerk, Class A1

Course Number: A-542-0011.

Location: Technical Training Center, Meridian, MS.

Length: 7 weeks (288 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain payroll, prepare and review payroll documents and leave statements, and compute pay entitlements.

Instruction: Course includes publications, fund disbursing procedures, accounting, pay and allowances, insurance, income tax, savings deposits, document control, public funds, typing, and correspondence. Methodology includes lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in clerical finance, 2 introduction to payroll accounting, and 2 in keyboarding (11/92).

NV-1402-0008

Fleet Data Processing Officers Training

Course Number: A-8B-0016.

Location: Supply Corps School, Athens, GA.

Length: 3-4 weeks (120-180 hours).

Exhibit Dates: 1/90–12/93.

Objectives: To train officers in ADP operations management, analysis, and programming.

Learning Outcomes: Upon completion of the course, the student will be able to match computer concepts with appropriate computer terminology; develop a flowchart of at least 25 symbols; write a computer program using the BASIC language; and manage a computer center, including managing resources, supervising personnel, and providing services to users.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing (7/83).

NV-1402-0010

DD-963 Naval Tactical Data Systems (NTDS) Data Input

Course Number: K-221-0075; J-221-0075.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (70-105 hours).

Exhibit Dates: 1/90–12/96.

Objectives: To train selected enlisted personnel in the skills related to the data collection area of the DD-963 Naval Tactical Data System.

Instruction: Classroom lectures and laboratory exercises cover NTDS equipment, input functions, user functions, data links, and mock-up/chalk talk.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/86).

NV-1402-0018

Data Analysis, Class C1

(Data Analysis, Class C)

(Aviation Maintenance Data Analysis, Class C)

Course Number: C-555-2011.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 4-6 weeks (174-200 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To train enlisted personnel and officers in the field of maintenance data analysis.

Instruction: Lectures cover graphic presentations, data documentations, descriptive and inferential statistics, control charts, work measurement, linear correlation, and analytical projection.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in business statistics (8/92).

NV-1402-0023

DD-963 Naval Tactical Data System (NTDS) Data Utilization, Class C2

(Naval Tactical Data System (NTDS) (Data Utilization))

(DD-963 Naval Tactical Data System (NTDS) Data Utilization)

Course Number: K-2G-0074; J-2G-0074.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (70-105 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train officers and senior petty officers in the current operating procedures, capabilities, and limitations of the DD-963 Naval Tactical Data System.

Instruction: Classroom lectures and laboratory exercises in NTDS equipment, user function, input functions, data links, and mock-up/chalk talk. Course includes functional capabilities and front panel controls of the tactical data system and subsystems, such as I/O console, monitors, decoders, weapon control panel, and data links. Proper operating procedures are stressed along with the interaction with and responsibilities of other weapons control personnel.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/91).

NV-1402-0026

Central Navigation Computer (CNC) (Input/Output)

Course Number: A-193-0249.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: 3 weeks (90 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train navigation electronics technicians to understand and maintain CP-890/UYK digital navigation computers input/output sections.

Instruction: Lectures and practical exercises cover functions of the CNC input/output controllers and the function of all input/output circuits, essential events and their timing relationships for all input/output operations, and logic circuits for input/output instruction executions. Laboratory exercises cover operational and self-test features, interpretation of malfunctions, fault isolation, and repair procedures.

Credit Recommendation: In the upper-division baccalaureate category, 1 semester hour in computer organization (I/O channels) (3/81).

NV-1402-0048

Cryptologic Systems Software

Course Number: A-532-0028.

Location: Security Group Activity, Skaggs Island, Sonoma, CA.

Length: 12 weeks (360 hours).

Exhibit Dates: 1/90–1/93.

Objectives: To train personnel to operate and program a PDP-11 computer by developing programming skills in FORTRAN, the MACRO-11 assembly languages, and the RSX-11M operating system.

Instruction: The course, which is divided into four areas, includes an introductory section in computer science, including number systems, arithmetic operations, computer architecture, peripheral devices, interunit communications, logic flow charts, and computer languages. The second section is a complete FORTRAN programming course on language syntax. The third section covers PDP-11 assembly language. The last section of the course covers PDP-11 operating systems. Two hundred seven hours are devoted to developing programming language skills and computer operating techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer operating systems—PDP-11, 3 in introduction to data processing, 3 in FORTRAN programming, and 3 in assembly language programming for the PDP-11 (7/80).

NV-1402-0054

AN/USM-449(V) Intermediate Maintenance

Course Number: C-198-3018.

Location: Air Station, Jacksonville, FL; Air Station, Moffett Field, CA.

Length: 16-17 weeks (640-680 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide experienced technicians with the knowledge and theory to operate, program, troubleshoot, and repair electronic systems using a specific computer-controlled automatic test set.

Instruction: Lectures, demonstrations, and practical exercises cover computer organization, programming (using machine and the ATLAS and DETOL languages), and interfacing; analyzing circuits; and operation. Programming and interfacing at the peripheral test equipment level for both analog and digital devices is emphasized as well as fault identification in tested systems and the computer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer organization and functions, 3 in computer system interface and operation, and 2 in computer laboratory (3/93).

NV-1402-0055

P-3A/B TAC/NAV Mod Organizational Maintenance

Course Number: C-102-3569.

Location: Air Station, Moffett Field, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/93.

Objectives: To provide maintenance personnel with training in system operation, troubleshooting, and component replacement for navigational equipment AN/ASN-124.

Instruction: Lectures and practical exercises cover the basic operation of the AN/ASN-124 and AN/AQA-7(V)5 systems, including signal processing, analog to digital conversions, system operation, and function of inertial navigation subsystems; omega navigation; power distribution; and operational checks including built-in digital computer self-test checks.

Credit Recommendation: In the vocational certificate category, 3 semester hours in operation and repair of analog/digital systems (7/81).

NV-1402-0056

AN/USM-449(V) Intermediate Operator

Course Number: C-198-3017.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–1/93.

Objectives: To prepare technicians to operate and program, under limited supervision, the AN/USM-449(V) test set.

Instruction: Lectures and laboratory exercises cover the control and operating procedures for the test set which performs computer-controlled testing of analog and digital systems. Course includes procedures for loading, editing, and running programs; programming techniques using the DETOL language; program structure; instruction format; operations and expressions; error codes; and interfacing of the computer to tested systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/81).

NV-1402-0057

Digital Fundamentals

Course Number: C-000-3178.

Location: Air Station, Miramar, San Diego, CA; Air Station, Beaufort, SC; Air Station, El Toro, CA; Air Station, Jacksonville, FL; Air Station, Oceana, Virginia Beach, VA; Air Station, Cecil Field, FL.

Length: 2 weeks (76 hours).

Exhibit Dates: 1/90–1/93.

Objectives: To introduce the concepts of basic digital circuits, number systems, and basic logic devices.

Instruction: Lectures cover basic computer concepts; binary, octal, and hexadecimal number systems; base conversion; basic logic gates; multivibrators; registers; counters; program concepts; and flow charts.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in introduction to electronic digital circuits or 1 semester hour in basic digital concepts for electrical engineering majors (3/82).

NV-1402-0062

AN/SYR-1 Weapons Direction System (WDS) Mk 14 Maintenance

Course Number: A-150-0230.

Location: Combat Systems Technical Schools Command, Mare Island, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 17 weeks (600 hours).

Exhibit Dates: 1/90–1/93.

Objectives: To train qualified personnel in the operation and repair of the WDS Mk 14 system and its subsystems.

Instruction: Lectures and practical exercises cover the operation, maintenance, and repair of the SYR-1 system and related subsystems, including number conversions (digital to octal to binary), binary and octal additions, subtraction, complementing procedures, logic functions (AND, OR, XOR, NAND, and NOR), and digital flowcharting; programming, including addressing (8 bit and 16 bit), formatting, transfer procedures, registers, loop instructions, subroutine calls, indirect addressing, and I/O instructions (series and parallel); mag tape fundamentals, including loading, tape systems, and formatting and maintenance procedures; operating instructions; and maintenance and repair procedures using standard electronic equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in logic systems, 3 in computer systems, and 5 in electronic systems troubleshooting (11/83).

NV-1402-0063

AN/GYK-22 (BITMAN) Maintenance

Course Number: A-102-0115.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (237 hours).

Exhibit Dates: 1/90–1/94.

Objectives: To provide personnel with training to perform preventive and corrective maintenance on the BITMAN computer system.

Learning Outcomes: Upon completion of the course, the student will be able to write and run simple maintenance programs on digital computer systems, trace the operations of the various subgroups (control, memory, I/O, and peripherals), and troubleshoot to the component level using system trouble indicators and test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer system maintenance (1/84).

NV-1402-0065

Cryptologic Technician Communications—Communications Systems Operations, Control, and Management

Course Number: A-260-0029.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 19 weeks (753 hours).

Exhibit Dates: 1/90–1/94.

Objectives: To provide personnel with knowledge and skills in communications systems, operations, control, and management.

Learning Outcomes: Upon completion of the course, the student will be able to describe an extensive communication system, including radio receiver and transmitter, teletype machine, landlines, satellites, and digital computers; describe the basics of radio communications, including modulation, multiplexing, and normal tests and adjustments; operate a digital computer including data and program entry from console keyboard or tape/deck drives; and interpret error messages and follow appropriate diagnostic procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications survey and 1 in computer operation (1/84).

NV-1402-0066

Cryptologic Technician (Technical) ELINT Operator

Course Number: A-231-0028.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–12/97.

Objectives: To provide the student with the knowledge and skill necessary to operate data collection equipment and to evaluate and disseminate the appropriate information.

Learning Outcomes: Upon completion of the program, the student will be able to intercept 88 percent of available signals and measure such things as radio frequency, pulse duration, pulse repetition frequency, and line of bearing and compute radar characteristics, such as minimum range, maximum unambiguous range, and beam width.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/87).

NV-1402-0067

Cryptologic Technician M, Outboard Maintenance

Course Number: A-102-0208.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 29 weeks (1177 hours).

Exhibit Dates: 1/90–1/95.

Objectives: To provide training for preventive and corrective maintenance on a specialized piece of equipment.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance, per appropriate manuals, on equipment in the OUTBOARD suite, including the AN/SLR-16, AN/SLR-19, AN/UYQ-23 and associated units and describe digital computer basics including the functions of a microprocessor.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in survey of microprocessor systems and 3 in electronic systems troubleshooting and maintenance (1/84).

NV-1402-0068

Cryptologic Technician M, Wideband System Maintenance

Course Number: A-102-0230.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 26 weeks (1024 hours).

Exhibit Dates: 1/90–1/90.

Objectives: After 1/90 see NV-1402-0197. To provide technicians with training in preventive and corrective maintenance on a computer controlled wideband receiver signal processor.

Learning Outcomes: For the course at a later date, see NV-1402-0197. Upon completion of the course, the student will have a knowledge and understanding of a signal digitizer and processor, memory, translator/recorder, display power supplies and a maintenance philosophy of a computerized wideband radio signal processor; and be able to perform maintenance and troubleshooting, to the component level, using basic knowledge of digital/computer principles and specific knowledge of system operation and subsystems.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in computer controlled digital operating systems (6/87).

NV-1402-0069

Cryptologic Technician M, Universal Cryptologic Processor Maintenance

Course Number: A-102-0290.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–2/90.

Objectives: After 2/90 see NV-1402-0177. To provide technicians with the entry-level knowledge of PDP-11 digital computer required for entry into specialized DEC equipment maintenance courses.

Learning Outcomes: Upon completion of the course, the student will be able to describe the architecture, instructions, addressing, timing, and operation of the PDP 11-35/40 computer system, including control unit, core memory, memory management, and interfacing and troubleshoot down to the component level using system diagnostics, digital test equipment, and standard test equipment.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in PDP-11 35/40 system maintenance and troubleshooting (7/87).

NV-1402-0070

Cryptologic Technician M Universal Cryptologic Processor Wideband Subsystem Maintenance, Class C

Course Number: A-102-0291.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–11/90.

Objectives: After 11/90 see NV-1402-0198. To provide technicians with training in preventive and corrective maintenance on the PDP 11 35/40 and associated equipment used in the wideband radio receiving system.

Instruction: For the course starting 12/90, see NV-1402-0198. Upon completion of the course, the student will have an understanding of the operation of a PDP 11-34 computer system, including extended instruction set, floating point option, core memory, bootstrap loader, asynchronous interface, DEC writer, DMA, interprocessor link, bug repeater, disk system and system diagnostics; will be able to maintain, troubleshoot, and repair the computer to the component level; will have knowledge of system instructions, addressing, timing, architecture and system diagnostics; and be able to use digital test equipment and standard test equipment.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in digital computer system maintenance and troubleshooting (6/87).

NV-1402-0071

Cryptologic Technician O, Class A

Course Number: A-260-0030.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–5/91.

Objectives: After 5/91 see NV-1402-0199. To provide technicians with the essential knowledge and skills necessary to perform at the apprentice level in radio printer communications.

Learning Outcomes: Upon completion of the course, the student will be able to type up to 35 wpm at 95 percent accuracy and read teletypewriter tape at 50 wpm; extract, format, transmit, and route messages in accordance with appropriate Navy cryptographic and other operating procedures; and operate various cryptographic communications equipment including teletypewriters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic typing skills (7/87).

NV-1402-0072

Digital Training

Course Number: A-102-0235.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (140 hours).

Exhibit Dates: 1/90–10/92.

Objectives: After 10/92 see NV-1715-1657. To provide students with knowledge of the fundamentals of digital logic and microprocessors.

Learning Outcomes: Upon completion of the course, the student will be able to convert between and perform arithmetic operations on decimal, hexadecimal, BCD, excess-3, binary, and octal numbers; use integrated circuits to construct and analyze logic circuits, such as adders, subtractors, decoders encoders, counters, and registers; understand the function and architecture of basic computer units, i.e. control, ALV, memory, and I/O; write elementary machine language programs for the MC6800 microprocessor; describe memory-mapped I/O; and perform simple interfacing exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital logic and microprocessors (7/87).

NV-1402-0075

Electronic Warfare Technician AN/SLQ-32(V2) Electronic Surveillance Measures (ESM) Maintenance

Course Number: A-102-0215.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 11 weeks (440 hours).

Exhibit Dates: 1/90–2/90.

Objectives: After 2/90 see NV-1715-1653. To provide training for preventive and corrective maintenance of specific military equipment.

Learning Outcomes: Upon completion of the course, the student will be able to describe complex electronic signal processing systems which include analog and digital signals with digital computer controls; troubleshoot equipment malfunctions to the component level; and use test equipment, such as oscilloscopes, signal generator, and frequency meters for alignment and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital system troubleshooting (7/87).

NV-1402-0079

COMPUTER CP-890A, B/UYK INPUT/OUTPUT CONTROLLER MAINTENANCE

Course Number: A-193-0338.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 3 weeks (112 hours).

Exhibit Dates: 1/90–7/94.

Objectives: After 7/94 see NV-1402-0234. To provide electronics technicians with knowledge and skills necessary to perform maintenance on a navigation computer.

Instruction: Lectures and laboratory exercises cover the functional descriptions of the computer input/output controller, master clock, timing chain and sequencer, master clear circuitry, real-time clock and control memory operations, external function/output data operations, input data operations, external interrupt operations, and the computer input/output controller special operations. Slightly over one-third of the course is spent in maintenance and troubleshooting laboratory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer input/output operations and troubleshooting (8/84).

NV-1402-0080

COMPUTER DP-890A AND B/UYK PROCESSOR MAINTENANCE 2

Course Number: A-193-0337.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–7/94.

Objectives: After 7/94 see NV-1402-0235. To provide electronics technicians with the knowledge and skills necessary to perform maintenance on a navigation computer.

Instruction: Group-paced lectures, practical demonstrations, and laboratories cover the functional descriptions of the processor add-subtract, nonsequential, interrupt, repeat, shift, complex arithmetic, floating-point operations; and the processor replace instruction group. Approximately one-third of course time is spent in laboratory work on corrective maintenance and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer CPU theory and troubleshooting (8/84).

NV-1402-0083

LAUNCHER CONTROL AND MONITORING EQUIPMENT
(Missile Launcher Control and Monitoring Equipment)

Course Number: A-121-0469.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (116 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance on the Trident missile launcher pressurization system control, control and monitoring panel, and ventilation alarm and monitoring panel; describe the functional operation of the systems; explain systematic fault isolation; and describe the procedures required for disassembly, repair, and reassembly of the VAMP and CAMP.

Instruction: Lectures and laboratory exercises cover systems operation, theory, and troubleshooting. Troubleshooting makes use of computer-aided diagnostics and troubleshooting flow charts to the board level, including work on the pneumatic, hydraulic, and digital/computer component subsystems. The ability to use basic digital/computer theory and system knowledge is emphasized.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital systems troubleshooting (3/89).

NV-1402-0087

TRIDENT DEFENSIVE WEAPONS SUBSYSTEM/COMMAND SUBSYSTEM LEVEL 2

Course Number: A-130-0228.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 11 weeks (363 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To prepare electronics technicians to perform preventive/corrective maintenance procedures on a computer control system.

Instruction: See NV-1402-0126 (A-150-0251), NV-1402-0127 (A-150-0216), NV-1402-0128 (A-150-0252), NV-1715-1326 (A-130-0232). This is a pipeline course.

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (2/89).

NV-1402-0088

TRIDENT DEFENSIVE WEAPONS SUBSYSTEM/COMMAND SUBSYSTEM LEVEL 3

Course Number: A-130-0229.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 5 weeks (124 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To prepare experienced electronics technicians to operate and maintain a defensive weapons system.

Instruction: See NV-1402-0124 (A-130-0233) and NV-1402-0125 (A-130-0231). This is a pipeline course.

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (2/89).

NV-1402-0089

MISSILE TEST AND READINESS EQUIPMENT MK 7 MOD 4 ADVANCED CIRCUITRY
(Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance)

Course Number: A-121-0492.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (119 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the basic operation of each of the six functional areas of the Mk 7 Missile test and readiness equipment; describe the electromechanical operation of the six functional areas, including basic logic, tape format, signal flow, and response evaluation; and perform mechanical alignment and adjustment using special tools and test equipment.

Instruction: Lectures and laboratory exercises cover the functional operation, to the block diagram level, of specialized missile equipment. Topics include power supplies, display and panel controls, system verification tests, paper tape input, and printer operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital equipment maintenance (4/96).

NV-1402-0090

ANTISUBMARINE WARFARE (ASW) MODULE DATA PROCESSING TECHNICIAN

Course Number: J-531-0373.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 13 weeks (379 hours).

Exhibit Dates: 1/90–12/94.

Objectives: To train data processing technicians in the theory, operation, and maintenance of automated data processing equipment associated with an ASW system.

Learning Outcomes: Upon completion of the course, the student will be able to use data processing equipment, such as magnetic tape storage units, high speed printer, disk storage units, teletypewriter, and input/output operator console; perform limited maintenance, by fault isolation, on problems through system symptom recognition; and use diagnostic programs and system error messages for diagnosis of system faults. Maintenance is limited to operating procedures and determination of system/program faults.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data processing (9/84).

NV-1402-0091

ANTISUBMARINE WARFARE (ASW) MODULE DATA SYSTEMS TECHNICIAN

Course Number: J-150-0372.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 15 weeks (525 hours).

Exhibit Dates: 1/90–12/94.

Objectives: To train personnel in the theory, operation, and maintenance of the automatic data processing and display equipment associated with the ASW module.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functions of a magnetic tape and disk subsystem and a video display subsystem, perform planned and unplanned maintenance on the data processing system and subsystems, trace electronic signals through all systems, and document maintenance actions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in the operation, maintenance, and repair of data processing equipment (9/84).

NV-1402-0092

Antisubmarine Warfare (ASW) Operations Center (ASWOC) Acoustic System

Course Number: J-102-0364.
Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.
Length: 14-17 weeks (490-650 hours).
Exhibit Dates: 1/90–12/90.
Objectives: After 12/90 see NV-1402-0158. To train aviation ASW technicians to operate, maintain, and repair the Fast Time Analyzer mainframe and peripheral computer equipment.
Learning Outcomes: Upon completion of the course, the student will be able to perform calibration procedures; use basic test equipment; describe the components, characteristics, and operation of computer peripheral equipment, including disk drives, tape drives, cassette tape disks, video terminals, and printers; interface between computers and between computers and peripheral equipment; and operate, maintain, isolate faults, and repair the Fast Time Analyzer mainframe and peripheral equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer peripheral equipment, operation, maintenance, and repair (9/84).

NV-1402-0095

Computer Programming AN/UYK-7 Assembler Language—Basic

Course Number: J-532-0063.
Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.
Length: 4-5 weeks (196-200 hours).
Exhibit Dates: 1/90–Present.
Objectives: To train personnel to write, execute, and interpret computer programs written in the ULTRA/32 assembler language for a 32 bit word AN/UYK-7 computer.
Learning Outcomes: Upon completion of the course, the student will understand programming procedures for the AN/UYK-7 computer; understand the structure and use of the ULTRA/32 repertoire of instructions; write practical programs in the ULTRA/32 assembly language; and use the I/O instruction set and hardware to run and debug programs on the AN/UYK-7 computer.
Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in assembly language programming and 1 in assembler programming laboratory (10/91).

NV-1402-0096

Computer Programming AN/UYK-20 Assembler Language Basic

Course Number: J-532-0064.
Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.
Length: 5 weeks (175-195 hours).
Exhibit Dates: 1/90–Present.
Objectives: To train personnel to program a minicomputer.
Learning Outcomes: Upon completion of the course, the student will understand the structure and use of the ULTRA-20 repertoire of instructions; write practical programs in the ULTRA/20 assembler language for the UYK-20 computer; and use the I/O instruction set and hardware to run and debug programs on the AN/UYK-20 computer.
Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in assembler language programming and 1 in assembler programming laboratory (10/91).

NV-1402-0097

Digital Computer Microprocessor Basics

Course Number: A-100-0069.
Location: Submarine Training Center, Pacific, Pearl Harbor, HI.
Length: 2 weeks (70 hours).
Exhibit Dates: 1/90–12/95.
Objectives: To train enlisted personnel in the fundamentals of digital logic and microprocessors.
Instruction: Course covers basic digital concepts, arithmetic techniques, digital codes, digital sequential circuits, analog/digital and digital/analog conversion, integrated circuits, and microprocessor fundamentals.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital logic and microprocessor theory (11/85).

NV-1402-0098

SSN Central Computer Complex (CCC) Maintenance Software

Course Number: L-150-0001.
Location: Submarine Training Center, Pacific, Pearl Harbor, HI.
Length: 3 weeks (116-120 hours).
Exhibit Dates: 1/90–12/95.
Objectives: To provide training on central computer complex software and maintenance.
Instruction: Course provides the programming and analysis background necessary to maintain the central computer complex using data flow and overall subsystem interfacing for fault isolation at the system level.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to computer systems (11/85).

NV-1402-0099

Naval Intelligence Processing System (NIPS) System Maintenance

Course Number: J-150-0988; D-150-0119.
Location: Intelligence Processing System Training Facility, Key West, FL; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.
Length: 38 weeks (1465-1520 hours).
Exhibit Dates: 1/90–5/90.
Objectives: To qualify selected data systems technicians in the maintenance and repair of electronic data processing and intelligence display equipment.
Instruction: Lectures and laboratories cover the theory of operation, corrective and preventive maintenance, and troubleshooting procedures on the equipment that comprises the naval intelligence processing system. Course also covers system interface and support equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to computers, 3 in introduction to digital techniques, 1 in introduction to digital techniques laboratory, 3 in introduction to digital circuits, 2 in introduction to digital circuits laboratory, 3 in basic semiconductor circuits, 1 in basic semiconductor circuits laboratory, and 4 in computer maintenance (1/86).

NV-1402-0100

Afloat Storage and Retrieval Operator
(Naval Intelligence Processing System
(NIPS) Afloat Storage and Retrieval
Operator)

Course Number: J-150-0963; D-150-0002.
Location: Intelligence Processing System Training Facility, Key West, FL; Air Station, Norfolk, VA; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.
Length: 8 weeks (311-320 hours).
Exhibit Dates: 1/90–5/90.
Objectives: To train data processing technicians in data base storage and retrieval and the use of associated equipment.
Instruction: Lectures and practical exercises cover the operation of an intelligence processing computer; file maintenance procedures; basic intelligence and data bases; message processing systems; generation of output display formats; and the operation of subsystems to receive, process, and display intelligence data.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data processing principles (1/86).

NV-1402-0101

Landing Helo Auxiliary (LHA) Intelligence Center (IC) Afloat Automatic Data Processing (ADP) Operator

Course Number: J-531-0971; D-531-0120.
Location: Intelligence Processing System Training Facility, Key West, FL; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.
Length: 7 weeks (280 hours).
Exhibit Dates: 1/90–5/90.
Objectives: To train data processing technicians in data base storage and retrieval and the use of associated equipment.
Instruction: Lectures and practical exercises cover the operation of an intelligence processing computer; file maintenance procedures; basic intelligence and data bases; message processing systems; and the operation of subsystems to receive, process, and display intelligence data.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data processing principles (1/86).

NV-1402-0102

AN/TYQ-19(V), Marine Air-Ground
Intelligence System (MAGIS)
Intelligence Analysis Center (IAC)
Computer System, Automatic Data
Processing (ADP) Communications
Operator

Course Number: J-530-0978; D-530-0101.
Location: Intelligence Processing System Training Facility, Key West, FL; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.
Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–12/90.

Objectives: To train enlisted personnel to operate various types of automatic data processing equipment in support of an intelligence analysis center.

Instruction: Lectures and practical exercises cover the start-up of computer equipment; interfacing of the equipment with external sources; operation of computer subsystems, such as magnetic tape, disk packs, paper punch/reader, display units, file utilities, and system files; and recovery procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer operations (1/86).

NV-1402-0103

AN/TYQ-19(V), Marine Air-Ground
Intelligence System (MAGIS)
Intelligence Analysis Center (IAC)
Computer System Maintenance

Course Number: J-150-0992; D-150-0130.

Location: Intelligence Processing System Training Facility, Key West, FL; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–1/90.

Objectives: To train selected personnel in the operation and maintenance of the AN/TYQ-19(V) computer system.

Instruction: Covers theory of operation and maintenance procedures of the components that comprise the AN/TYQ-19(V) system, and preventive and corrective maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer fundamentals and 3 in electronic communication systems (1/86).

NV-1402-0104

AN/TYQ-19(V), Marine Air-Ground
Intelligence System (MAGIS)
Intelligence Analysis Center (IAC)
Computer Intelligence Analyst

Course Number: J-240-0976; D-240-0101.

Location: Intelligence Processing System Training Facility, Key West, FL; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–1/90.

Objectives: To provide the basic skills needed for the intelligence analyst to operate and utilize the marine air ground intelligence system (MAGIS).

Instruction: Lectures and practical exercise in the operation and usage of the equipment comprising the MAGIS system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronic data processing (1/86).

NV-1402-0105

Mk 152 Data

Course Number: A-113-0105.

Location: Training Center, Great Lakes, IL.

Length: 27 weeks (1080 hours).

Exhibit Dates: 1/90–6/95.

Objectives: To provide selected individuals having previous training in electronics and digital computer fundamentals with the knowledge and skills required to maintain the Mk 152 Digital computer and associated control/display panels and interfacing units.

Instruction: Lectures and laboratory exercises provide in-depth study of a 16-bit computer system using RTL logic and core memory. Study includes computer control section; arithmetic section; logic; timing; language instructions; addressing; circuitry; maintenance; control and boot-strap; operation of core memory; access times; decoding; synchro/digital, digital/synchro, and other D/A and A/D conversions; multiplexing; timing; interacting of different logic and signal levels; and use of diagnostics and other procedures for troubleshooting down to the board and/or component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer architecture and interfacing and 2 in computer maintenance and repair (1/86).

NV-1402-0106

AN/UYK-7 Data Group
(Gun Fire Control System Mk 86 Consoles and Data Group Equipment Maintenance)
(AN/UYK-7(V) Data Maintenance, Class C7)

Course Number: A-113-0099; J-113-0099.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA; Fleet Training Center, San Diego, CA; Training Center, Great Lakes, IL.

Length: 30-32 weeks (814-1280 hours).

Exhibit Dates: 1/90–6/95.

Objectives: To provide selected students with the knowledge and skills to maintain a digital computer and its peripheral equipment.

Instruction: This is an in-depth diagnostic and repair course on a 32-bit multiprocessor computer which uses the DTL logic family. Also included are instructions on troubleshooting and repair of associated and peripheral equipment, such as printers, magnetic tape units, signal data transfer buffers, wide display systems, radar signal processors, and C/O buffer systems. Machine language instruction codes are used extensively to isolate faults to the card or component level by interpreting front panel display and using an oscilloscope to verify the fault. Repairs are made to the card level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in minicomputer architecture and interface systems and 2 in computer maintenance and repair (10/91).

NV-1402-0107

Universal Cryptologic Processor Training
Classic Bowsprit Sail Maintenance

Course Number: A-102-0303.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4-5 weeks (184 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventative and corrective maintenance on a minicomputer system and a microprocessor-driven system and use diagnostics to troubleshoot the processors, printers, display terminals, other peripherals, controllers, and interfaces to the modular level.

Instruction: Lectures, demonstrations, handouts, transparencies, and lab exercises are used to teach the student how to service and maintain a minicomputer system including the processor and various peripherals and interfaces. Software and hardware diagnostics are used to teach the troubleshooting of all devices to the modular level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in minicomputer system maintenance (7/87).

NV-1402-0108

Universal Cryptologic Processor Training
PDP-11/70 Maintenance

Course Number: A-102-0293.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 10 weeks (440 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the PDP-11/70 minicomputer and its peripherals.

Instruction: Group-paced lectures, practical demonstrations, and laboratory work cover the PDP-11/70 minicomputer and diagnostic routines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in introduction to minicomputers and 4 in minicomputer maintenance (7/87).

NV-1402-0109

1. Radio Frequency Distribution Maintenance
2. Radio Frequency Distribution Maintenance, Class C1

Course Number: *Version 1:* A-102-0304. *Version 2:* A-102-0304.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 7 weeks (280 hours). *Version 2:* 5-6 weeks (200 hours).

Exhibit Dates: *Version 1:* 3/95–Present. *Version 2:* 1/90–2/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will perform preventive/corrective maintenance procedures on the AN/FRD-10 direction finder; describe the major components of the basic radio direction finding system; perform control subsystem power supply adjustment procedures; perform video display alignment; and troubleshoot the switch matrix subsystem. *Version 2:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance procedure on the AN/FRD-10 radio frequency distribution network and associated equipment.

Instruction: *Version 1:* This course includes group-paced lecture and laboratory exercises in the operation, circuit analysis, alignment, diagnostics, and performance checking of the AN/FRD-10A and AN/FRQ-25 radio frequency detection/radio frequency switch matrix systems. *Version 2:* Group-paced lectures using audiovisuals, demonstrations, and laboratory exercises teach the student preventative and corrective maintenance procedures for the AN/FRD-10 and associated equipment.

Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in electronic systems troubleshooting and maintenance (2/98). *Version 2:* Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1402-0110

Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C

Course Number: A-532-0033.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–4/91.

Learning Outcomes: After 4/91 see NV-1715-1684. Upon completion of the course, the student will be able to use the operating system RSX-11M for file manipulation, data volume preparation, intrasystem communication, and algorithm development. The student will be able to design, code, and test FORTRAN-77 programs that will initialize, maintain, sort, and print data bases.

Instruction: Lectures and supervised laboratory sessions are used to teach the student use of RSX-11M operating system and FORTRAN-77 computer language for the operation and control of data bases.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in FORTRAN programming, 2 in RSX-11 operating system, and 2 in data base management (7/87).

NV-1402-0111

Radio Frequency Switch Matrix System Maintenance, Class C1

Course Number: *Version 1:* A-102-0319. *Version 2:* A-102-0319.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 9 weeks (300 hours). *Version 2:* 12 weeks (360 hours).

Exhibit Dates: *Version 1:* 9/90–1/95. *Version 2:* 1/90–8/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to service and maintain the computerized radio frequency switch matrix. The student will be able to describe the theory of operation and perform maintenance procedures of the LSI 11/23 computer and associated disk drives, video terminals, and printers. *Version 2:* Upon completion of the course, the student will be able to service and maintain the computerized radio frequency switch matrix. The student will be able to describe the theory of operation and perform maintenance procedures on the LSI 11/23 computer and associated disk drives, video terminals, and printers.

Instruction: *Version 1:* Lectures with transparencies and a combination of demonstrations and lab exercises are used to instruct the student in the theory of operation and maintenance procedures of the LSI 11/23 computer, peripherals, and the RFSW equipment. *Version 2:* Lectures with transparencies and a combination of demonstrations and lab exercises are used to instruct the student in the theory of operation and maintenance procedures of the LSI 11/23 computer, peripherals, and the RFSW equipment.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer system maintenance (2/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer system maintenance (7/87).

NV-1402-0112

Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance

(Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance)

Course Number: A-102-0292.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5-7 weeks (216 hours).

Exhibit Dates: 1/90–10/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform board-level preventive and corrective maintenance on PDP-11 equipment contained in direction-finding subsystems of the AN/FSQ-117 wideband system, using knowledge of system instructions, timing architecture, and system diagnostics.

Instruction: Group-paced lectures, practical demonstrations, and laboratory work use the PDP-11, disk drives, DEC writer printer, and video terminal.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in minicomputer maintenance laboratory (2/93).

NV-1402-0113

Multiuser Special Intelligence Communications Maintenance

Course Number: A-102-0287.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7-15 weeks (280-600 hours).

Exhibit Dates: 1/90–1/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform corrective and preventive maintenance on a PDP-11/70-based system, including peripherals consisting of asynchronous and synchronous multiplexers, microprocessor, floating-point processor, video terminal, DEC Writer II, dual programmable clock, and ML11 Megaram memory.

Instruction: Classroom instruction and laboratory exercises involve troubleshooting to the module level. Student is required, using open book, notes, manual, etc., to determine status of peripherals and faults, using self-tests, computer diagnostics, register bits, base addresses, syndromes in RAM error identification, and knowledge of system functions and operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer system maintenance and repair (11/93).

NV-1402-0115

Machinery Systems Console Maintenance

Course Number: *Version 1:* A-623-0112. *Version 2:* A-623-0112. *Version 3:* A-623-0112.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 12-14 weeks (430-540 hours). *Version 2:* 12-14 weeks (480-560 hours). *Version 3:* 27 weeks (1080 hours).

Exhibit Dates: *Version 1:* 12/94–Present. *Version 2:* 10/92–11/94. *Version 3:* 1/90–9/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to troubleshoot and perform scheduled and corrective maintenance on shipboard propulsion engineering control consoles. *Version 2:* Upon completion of the course, the student will be able to troubleshoot and perform scheduled and corrective maintenance on shipboard propulsion engineering control consoles. *Version 3:* Upon completion of the course, the student will be able to troubleshoot and perform scheduled and corrective maintenance on shipboard propulsion engineering control consoles.

Instruction: *Version 1:* Multimedia presentations and practical exercises are designed to provide Interior Electrician's Mates with the skills required to troubleshoot and maintain shipboard control consoles and automatic control systems. Topics covered include review of math, electronic test equipment, AC/DC electricity, solid state devices, operational amplifiers, digital logic, microprocessors, memory, sensors, AD/DA converters, elementary physics, basic pneumatics, multiplexing, introduction to propulsion plants, diesel propulsion plant operating systems, damage control systems, and control devices for diesel and steam-driven electrical generating systems. *Version 2:* Multimedia presentations and practical exercises are designed to provide Interior Electrician's Mates with the skills required to troubleshoot and maintain shipboard control consoles and automatic control systems. Topics covered include review of math, electronic test equipment, AC/DC electricity, solid state devices, operational amplifiers, digital logic, microprocessors, memory, sensors, AD/DA converters, elementary physics, basic pneumatics, multiplexing, introduction to propulsion plants, diesel propulsion plant operating systems, damage control systems, and control devices for diesel and steam-driven electrical generating systems. *Version 3:* Multimedia presentations and practical exercises are designed to provide Interior Electrician's Mates with the skills required to troubleshoot and maintain shipboard control consoles and automatic control systems. Topics covered include review of math, electronic test equipment, AC/DC electricity, solid state devices, operational amplifiers, digital logic, microprocessors, memory, sensors, AD/DA converters, elementary physics, basic pneumatics, multiplexing, introduction to propulsion plants, diesel propulsion plant operating systems, damage control systems, diesel-driven electrical generating systems, and steam-driven electrical generating systems.

Credit Recommendation: *Version 1:* In the vocational certificate category, 6 semester hours in automation and control systems maintenance (12/95); in the lower-division baccalaureate/associate degree category, 4 semester hours in automation and control systems technology (12/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits, 3 in AC circuits, 3 in solid state electronics, and 1 in digital principles (10/93). *Version 3:* In the vocational certificate category, 6 semester hours in computer control systems maintenance and 1 in electric power generation (6/88); in the lower-division baccalaureate/associate degree category, 4 semester hours in basic electricity/electronics, 3 in introduction to digital devices, and 3 in basic electronics laboratory (6/88).

NV-1402-0116

COMPUTER/MICROPROCESSOR FUNDAMENTALS

Course Number: A-121-0546.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (116-117 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate understanding and application of number systems, digital codes, 6800 architecture, instruction set, addressing modes, memory tapes, basic algorithm development, address decoding, basic I/O interfacing, and the 6821 PIA chip.

Instruction: Classroom instruction and laboratory exercises use Heathkit ETW 3400 Microprocessor training covering the instruction set, number systems, addressing modes, architecture, and interfacing techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in microprocessors (6/88).

NV-1402-0117

OCEAN SURVEILLANCE INFORMATION SYSTEM (OSIS) BASELINE UPGRADE COMPUTER USER

Course Number: J-243-0995.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the Ocean Surveillance Information System Baseline Upgrade (OBU) computer.

Instruction: Lectures, discussions, visual aids, and extensive student practical exercises cover OBU functional capabilities, OBU system components, computational analysis, data base management, message processing, and simulated ocean surveillance scenarios.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in data processing and 1 in computer operations (7/88).

NV-1402-0118

PROTOTYPE OCEAN SURVEILLANCE TERMINAL USER

Course Number: *Version 1:* J-243-0940. *Version 2:* J-243-0940.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 1 week (45 hours).

Exhibit Dates: *Version 1:* 11/90–9/92. *Version 2:* 1/90–10/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate the Prototype Ocean Surveillance Terminal (POST) microcomputer system. *Version 2:* Upon completion of the course, the student will be able to operate the Prototype Ocean Surveillance Terminal (POST) microcomputer system.

Instruction: *Version 1:* Lectures, discussions, visual aids, and laboratory cover system reports, editing messages, correlating data, data base functions, analysis functions, plot configuration, and system configuration. *Version 2:* Lectures, discussions, visual aids, and laboratory cover system reports, editing messages, correlating data, data base functions, analysis functions, plot configuration, and system configuration.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in microcomputer applications (7/88).

NV-1402-0119

OCEAN SURVEILLANCE INFORMATION SYSTEM (OSIS) BASELINE UPGRADE SYSTEM MANAGEMENT

Course Number: J-243-0991.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 9 weeks (368 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to manage the operation of the Ocean Surveillance Information System Baseline Upgrade (OBU).

Instruction: Lectures, discussions, visual aids, and extensive student practical exercises cover introduction to naval intelligence, OBU system capabilities, OBU system operational software programs, OBU system malfunctions, configuration and reconfiguration techniques, fault monitoring capabilities, maintenance coordination, security management, and data base management functions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in data base management systems, 2 in data processing, and 2 in computer operations (7/88).

NV-1402-0120

AEGIS FUNDAMENTALS

Course Number: *Version 1:* S-150-0240. *Version 2:* A-150-0240; S-150-0240.

Location: Aegis Training Center, Dahlgren, VA.

Length: *Version 1:* 1-2 weeks (46 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 5/90–Present. *Version 2:* 1/90–4/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have completed a rigorous review of digital circuits and the operation of a microprocessor control unit. Practical exercises are not provided. A physical description of the Aegis phase array combat system which uses this microprocessor is also presented. *Version 2:* Upon completion of the course, the student will be able to describe the behavior of basic logic elements, such as gates, memory, encoders/decoders, analog-to-digital/digital-to-analog conversion, and multiplexers and apply concepts of digital computer organization and programming.

Instruction: *Version 1:* A review of basic electricity, safety, number systems, and logic operations is followed by a comprehensive review and application of a central processing unit and programmable control unit. Topics include mathematical operations, functional operation of data processing equipment, programming languages down to machine code, microprocessor architecture, addressing modes, bus drivers, stack operations, registers, interfacing to peripheral equipment, memory architecture, operating system software, and diagnostic programs. *Version 2:* Course contains a brief overview of digital logic and computers.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in microprocessors (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in digital principles (12/88).

NV-1402-0121

1. AEGIS COMPUTER AN/UYK-7 OPERATION AND MAINTENANCE (CG-47-64)
2. FC-1114 COMBAT SYSTEM COMPUTER SYSTEM MAINTENANCE TECHNICIAN

Course Number: *Version 1:* S-150-0239. *Version 2:* S-150-0239; A-150-0239.

Location: Aegis Training Center, Dahlgren, VA.

Length: *Version 1:* 25 weeks (975 hours). *Version 2:* 20 weeks (776 hours).

Exhibit Dates: *Version 1:* 10/93–Present. *Version 2:* 1/90–9/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and perform system maintenance and troubleshooting, including fault isolation, on a 32-bit word discrete component central processor unit, magnetic data storage unit, line printer, and related digital control panels. *Version 2:* Upon completion of the course, the student will be able to maintain a computer system used to control a complex phased array radar system. Student will be able to perform preventive maintenance and troubleshoot to the circuit card level, load software, and operate the system.

Instruction: *Version 1:* One third of the course is devoted to lecture and lab exercises on the CPU. The operation, instruction set, memory, interrupts, and input/output ports are studied in detail with the object of learning corrective maintenance procedures. Half the course is devoted to lecture and lab exercises on the operation and maintenance of peripheral equipment such as magnetic tape units, line printers, plotters, controllers, and data terminals. The remaining time is devoted to the Aegis weapon system and how it interfaces with the computer system. *Version 2:* Course includes an in-depth study of the operation and maintenance of computer control and signal processing equipment for a radar system. The course is approximately 50 percent lecture and 50 percent practical application.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in computer systems operation and maintenance and 2 in electrical/mechanical maintenance and repair (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in computer systems and organization and 4 in computer systems troubleshooting and maintenance (12/88).

NV-1402-0122

MAGNETIC DISK FILE THEORY AND MECHANICAL MAINTENANCE FIRE CONTROL SYSTEM (FCS) MK 98 MOD 0

Course Number: A-121-0429.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 1-2 weeks (49-52 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform all corrective maintenance on the magnetic disk file subsystem.

Instruction: Lectures and laboratories cover the theory, operation, and maintenance of disk pack, mechanical drive, hydraulic actuator, and carriage assembly of a magnetic disk file subsystem. Instruction is also included on special tools and test equipment to align, adjust, and calibrate the magnetic disk file subsystem.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer repair technology (4/96).

NV-1402-0123

Trident Defensive Weapons Subsystem/ Command Subsystem (DWS/CS) Level I

Course Number: A-130-0227.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 11 weeks (322 hours).

Exhibit Dates: 1/90–2/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain, under supervision, a command and control system.

Instruction: Lectures and laboratory exercises cover the basic theory, functions, operation, and maintenance of a computer-controlled system with multiple inputs and outputs.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in the operation and maintenance of computer control system (2/89).

NV-1402-0124

Mk 118 Fire Control System Advanced Maintenance

Course Number: A-130-0233.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3 weeks (81 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain, at an advanced level, the Mk 118 Fire Control System.

Instruction: Lectures and laboratory exercises cover the theory, operation, and maintenance of power supplies, I/O control, and test circuits of fire control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer control applications laboratory (2/89).

NV-1402-0125

Advanced Defensive Weapons Subsystem Command Subsystem Operator

Course Number: A-130-0231.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (52 hours).

Exhibit Dates: 1/90–10/92.

Learning Outcomes: Upon completion of the course, the student will be able to qualify as a console operator by demonstrating the advanced operating procedures for the battle stations fire control party.

Instruction: Lectures and laboratory exercises cover the theory, operation, and maintenance of defensive weapons subsystems. Topics include sonar displays, radar displays, and controls.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer control applications laboratory (2/89).

NV-1402-0126

Display Console OJ-326(V)/UYK and Digital Display Indicator IR-1181/UYK Maintenance Phase II

Course Number: A-150-0251.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3 weeks (88 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform corrective maintenance on the memory and display functional areas of a display console.

Instruction: Lectures and laboratory cover the theory, operation, and maintenance of display consoles. Topics also include test equipment to perform alignment, adjustment, and calibration procedures on digital display indicators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital systems (2/89).

NV-1402-0127

Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/ UYK Maintenance Phase I

Course Number: A-150-0216.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (105 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to provide corrective maintenance of power/cooling and interface functions of the display console.

Instruction: Lectures cover the theory, operation, and maintenance of display console with topics on logic levels, memory size and accuracy, inputs and outputs, and data multiplexing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer display systems (2/89).

NV-1402-0128

Display Console OJ-326(V)/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase III

Course Number: A-150-0252.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (48 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform corrective maintenance on the analog functions of a display console.

Instruction: Lecture and laboratory activities cover the operation and maintenance of display console with coverage inputs, outputs, data multiplexing, and display controls.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in A/D and D/A conversions (2/89).

NV-1402-0129

Target Data Processing (TDP) Maintenance, Class C

Course Number: J-130-0296.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 19-20 weeks (790 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a specific computer and its peripherals.

Instruction: Lectures and practical exercises cover the theory of operation and troubleshooting procedures for a computer, magnetic tape unit, keyset, display, printer, and plotter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer troubleshooting and maintenance and 2 in computer systems and organization (3/89).

NV-1402-0130

Automatic Data Processing Maintenance

Course Number: J-130-0298.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 13-14 weeks (503 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a specific computer system and its peripherals.

Instruction: Lectures and practical exercises cover the theory of operation and troubleshooting procedures for a computer, printer, disk drive, video display terminal, and multiplexer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization and 3 in computer systems troubleshooting and maintenance (3/89).

NV-1402-0131

Shipboard Nontactical Automatic Data Processing (ADP) Program 2 (SNAP 2) AN/UYK-62(V) Maintenance

Course Number: *Version 1:* A-150-0255. *Version 2:* A-150-0255.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 3-4 weeks (120-133 hours). *Version 2:* 3-4 weeks (145 hours).

Exhibit Dates: *Version 1:* 1/92–Present. *Version 2:* 1/90–12/91.

Learning Outcomes: *Version 1:* Upon completion of the course, personnel will be able to operate, maintain, and repair the Shipboard Nontactical Automated Data Processing System (SNAP-2) to a system level. *Version 2:* Upon completion of the course, the student will be able to operate and maintain specific shipboard data processing systems, including tape units, disk storage, keyboard, video terminal, printer, paper tape reader/punch, and power supply.

Instruction: *Version 1:* Lectures and practical exercises cover operation and preventive and corrective maintenance of the SNAP-2 system, which consists of data processing unit, tape and disk storage units, keyboard, video terminal, printer, paper tape reader and puncher, and power supply units. *Version 2:* Lecture and practical exercises cover operation and corrective/preventive maintenance of data processing systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (6/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (3/89).

NV-1402-0132

Integrated Submarine Automated Broadcast Processing System

Course Number: A-101-0140.

Location: Fleet Training Center, Norfolk, VA.

Length: 15 weeks (597 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the equipment in a submarine automated broadcast processing system.

Instruction: Lectures and practical exercises cover operation, troubleshooting, and repair of communications equipment and a computer system and its peripherals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization and 3 in computer systems troubleshooting and maintenance (3/89).

NV-1402-0133

AN/WSC-6(V) Operator

Course Number: A-260-0046.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a specific satellite communications set modem (data link).

Instruction: Lectures and practical exercises cover the operation of the communications set modem.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/89).

NV-1402-0134

Command and Control System (CCS) Advanced Level 3

Course Number: A-150-0202.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 5 weeks (134 hours).

Exhibit Dates: 1/90–1/91.

Learning Outcomes: Upon completion of the course, the trainee will be able to describe the types of signals, signal flow, inputs and output, coding, timing relationships, sequential operation, circuits, and registers found in the digital data computer CPU. Trainee will be able to perform standard and nonstandard operational tests to support maintenance at the board level.

Instruction: Lecture and laboratory exercises cover the power supply, CPU, I/O control unit, core memory unit, film memory unit, and operator control unit of the AN/UYK-7(V) digital data computer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer maintenance/operations (3/89).

NV-1402-0135

Trident Command and Control System Level 1

Course Number: A-150-0200.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 16 weeks (640 hours).

Exhibit Dates: 1/90–1/91.

Learning Outcomes: Upon successful completion of this course, the trainee will be able to state the purpose of the Trident Command and Control System (CCS); define the abbreviations, terms, and symbols used with the CCS; and describe all major and associated subsystems of the CCS and their locations.

Instruction: Laboratory and lecture cover the subsystems that comprise the CCS, including sonar, interior/exterior communications, ship control, data processing, passive RF monitoring, defensive weapon/command subsystem, tactical navigation, and monitoring subsystem.

Credit Recommendation: In the vocational certificate category, 3 semester hours in digital computer system operation and 3 in digital signal processing (3/89).

NV-1402-0136

Trident Command and Control System Level 2

Course Number: A-150-0201.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (115 hours).

Exhibit Dates: 1/90–1/91.

Learning Outcomes: Upon successful completion of this course, the trainee will be able to define the abbreviations, terms, and symbols used with the AN/UYK-7(V) to support basic corrective maintenance; describe all major and associated components of the Digital Data Computer (DDC); and describe the organization, control, and use of all technical documentation necessary for basic corrective maintenance.

Instruction: Lecture and laboratory exercises cover the subsystems of the AN/UYK-7(V) Digital Data Computer, including power supply, control processor, I/O controller unit, core memory, film memory unit, and operator control unit.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer operations (3/89); in the lower-division baccalaureate/associate degree category, 3 semester hours in computer maintenance laboratory (3/89).

NV-1402-0137

Fire Control System Mk 98 Mod 0 Advanced Technician

Course Number: A-121-0525.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–8/92.

Learning Outcomes: Upon completion of the course, the student will be able to define terms, abbreviations, and symbols associated with the Mk 98 Fire Control System (FCS), perform operational/fault isolation and repair on the FCS, and describe and use special tools and test equipment required for resolder and wire wrap connections while on patrol.

Instruction: Lectures and laboratory exercise cover the functional operation and mechanization of fire control subsystems, including power, data communications processor, master clock and timing, keyboard and display, printer, data conversion, and magnetic taper.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in data acquisition laboratory (3/89).

NV-1402-0138

Digital-to-Digital Converter CV-2342 B/UYK Maintenance

Course Number: A-193-0339.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (76 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe in detail all major and associated components of the digital-to-digital converter, describe in detail the physical interface(s) between the D/D converter and all associated equipment, and perform all authorized fault isolation and repair procedures.

Instruction: Lectures and laboratory exercises cover the theory and operation of D/D converters and support corrective maintenance procedures on the specific converter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital systems maintenance laboratory (4/96).

NV-1402-0139

Flat Panel Display Terminal Maintenance

Course Number: *Version 1:* A-193-0361. *Version 2:* A-193-0361.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 3 weeks (107 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the functional operation and procedures necessary to support corrective maintenance of the display terminal and perform all authorized fault isolation and repair procedures. *Version 2:* Upon completion of the course, the student will be able to describe the functional operation and procedures necessary to support corrective maintenance of the display terminal and perform all authorized fault isolation and repair procedures on the terminal.

Instruction: *Version 1:* Lectures and laboratory exercises support corrective maintenance procedures on the display terminal. *Version 2:* Lectures and laboratory exercises support cor-

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rective maintenance procedures on the display terminal and include detailed circuit analysis, inputs, and outputs.

Credit Recommendation: *Version 1:* Credit is not recommended because this course is limited to familiarization with specific pieces of equipment (4/95). *Version 2:* Credit is not recommended because of the limited, specialized nature of the course (3/89).

NV-1402-0140

MAGNETIC DISK FILE (MDF), THEORY AND ELECTRICAL MAINTENANCE FCS MK 98 MOD 0

Course Number: A-121-0428A; A-121-0428.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3-4 weeks (79-81 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and authorized fault isolation/repair procedures on the magnetic disk file subsystem.

Instruction: Lectures and laboratory exercises support preventive and corrective maintenance on the magnetic disk file subsystem.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/96).

NV-1402-0141

COMPUTER CP-890 A&B/UYK PROCESSOR MAINTENANCE I

Course Number: A-193-0336.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 3-4 weeks (107-112 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to work problems in Boolean algebra; work with memories, I/O devices, clock circuits, registers, and other components of a basic computer; operate associated power supplies; and perform maintenance on the equipment.

Instruction: Lectures and laboratories cover the maintenance of digital computers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (4/96).

NV-1402-0142

RADIO NAVIGATION SET AN/BRN-3B DATA PROCESSOR MAINTENANCE

Course Number: A-193-0260.

Location: Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 2 weeks (71 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a special purpose computer associated with a radio navigation set.

Instruction: Lectures and practical exercises cover the maintenance of the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems troubleshooting and maintenance (10/89).

NV-1402-0143

DIGITAL CONTROL COMPUTER PERIPHERAL EQUIPMENT ADVANCED MAINTENANCE FIRE CONTROL SYSTEM MK 88 MOD 1

Course Number: A-121-0290.

Location: Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: .), 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform diagnostic checks, operate, and maintain the keyboard/intercomputer link, including printer and tape reader, of a special purpose computer.

Instruction: Lectures and practical exercises cover the computer and its peripherals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems troubleshooting and maintenance (10/89).

NV-1402-0144

COMBAT CONTROL SUBSYSTEMS MK 1 MOD 0 PIPELINE MAINTENANCE

Course Number: A-113-0132.

Location: Submarine School, New London, Groton, CT.

Length: 23 weeks (1272 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the component parts of the digital computer, including arithmetic logic unit, address registers, disk processor, controllers and drivers, input/output circuits, data bit storage, buffers, and displays. Student is able to maintain, troubleshoot, and repair a digital computer system, including fault isolation and logic tests, and is able to align, adjust, and calibrate computer equipment.

Instruction: Lectures and practical exercises emphasize computer organization and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization and 3 in computer systems troubleshooting and maintenance (10/89).

NV-1402-0145

AN/UYK-20(V) BASIC MAINTENANCE

Course Number: A-150-0267.

Location: Submarine Base, New London, Groton, CT.

Length: 2 weeks (79 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair basic data processing equipment using common and specialized test equipment.

Instruction: Lectures and practical exercises include signal flow, input/output devices, registers, processors, power supplies, and test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (10/89).

NV-1402-0146

DIGITAL-TO-DIGITAL CONVERTER CV-2342/UYK MAINTENANCE

Course Number: A-193-0252.

Location: Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 2 weeks (76 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe, repair, and maintain a digital-to-digital converter.

Instruction: Lectures and laboratory exercises cover the characteristics and maintenance of a digital-to-digital converter including serial-to-parallel buffer and digital-to-analog buffer. Instruction is provided on testing, isolating faults, and repairing the converter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1402-0147

DIGITAL CONTROL COMPUTER MISSILE INTERFACE FCS MK 88 MOD 1

Course Number: A-121-0291.

Location: Submarine Base, New London, Groton, CT; Submarine Training Facility, Charleston, SC.

Length: 2-3 weeks (104 hours).

Exhibit Dates: 1/90–Present.

Objectives: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot the interface circuits of a digital control missile computer.

Instruction: Theory and practical exercises cover the circuitry for operation and repair of the interface circuits of the system including digital inputs and parallel-to-serial converters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1402-0148

DIGITAL COMBAT SYSTEMS COMMON CORE

Course Number: A-113-0113.

Location: Submarine Base, New London, Groton, CT.

Length: 18 weeks (604 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair an electronic control system and general purpose computer and describe general computer architecture and data and signal flow.

Instruction: Lectures and practical exercises cover computer organization, troubleshooting, and corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization, 3 in electronic systems troubleshooting and maintenance, and 3 in computer systems troubleshooting and maintenance (10/89).

NV-1402-0149

SHIPBOARD UNIFORM AUTOMATED DATA PROCESSING SYSTEM REAL TIME OPERATIONS AND MANAGEMENT

Course Number: *Version 1:* A-551-0085. *Version 2:* A-551-0085.

Location: *Version 1:* Fleet Training Center, San Diego, CA; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA. *Version 2:* Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 8 weeks (320 hours). *Version 2:* 10 weeks (400 hours).

Exhibit Dates: *Version 1:* 9/93–Present. *Version 2:* 1/90–8/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to supervise and operate the processes associated with an on-line real-time computer system supporting the shipboard functions of maintenance, supply, financial, and personnel administration. *Version 2:* Upon completion of the course, the student will be able to supervise and operate the processes associated with an on-line real-time computer system supporting the shipboard functions of maintenance, supply, financial, and personnel administration.

Instruction: *Version 1:* Methods include lectures, demonstrations, assignments, and examinations. Topics covered include system design, flow, element-level design and description, and internal and external interfaces to support activity for procurement, material receipt, storage, disbursement, financial reporting, and reconciliation to higher-level accounting systems. *Version 2:* Methods include lectures, demonstrations, assignments, and examinations. Topics covered include system design, flow, element-level design and description, and internal and external interfaces to support activity for procurement, material receipt, storage, disbursement, financial reporting, and reconciliation to higher-level accounting systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing (3/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing operations and 3 in automated data processing systems (12/89).

NV-1402-0150

Shipboard Non-Tactical Automatic Data Processing (SNAP 1) System Enlisted Supervisor/Operator

Course Number: A-532-0029.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (116 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to supervise the operation of an automatic data processing system. This computer-based system is designed to provide for on-line, real-time interactive support of the ship's maintenance, supply, financial, and administrative functions.

Instruction: Methods of instruction used include lectures and practical exercises in the operation and use of the computer in the support functions of the ship. Topics include the supply system, computer hardware and software, computer operations, and operation of the various support subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing (12/89).

NV-1402-0151

Shipboard Non-Tactical Automatic Data Processing (SNAP 2) System Coordinator

Course Number: *Version 1:* A-531-0018. *Version 2:* A-551-0018.

Location: *Version 1:* Fleet Training Group, Pearl Harbor, HI; Service School Command, San Diego, CA; Fleet Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Norfolk, VA. *Version 2:* Fleet Mine Warfare Training Center, Charleston, SC; Trident Training Facility, Kings Bay, GA; Submarine Base, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, ,WA; Fleet Training Group, Pearl Harbor, HI; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 8/90–Present. *Version 2:* 1/90–7/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to supervise and operate a computer-based system designed to provide for on-line, real-time interactive support of the ship's maintenance, supply, financial, and administrative functions. *Version 2:* Upon completion of the course, the student will be able to supervise and operate a computer-based system designed to provide for on-line, real-time interactive support of the ship's maintenance, supply, financial, and administrative functions.

Instruction: *Version 1:* Methods of instruction include lectures and practical exercises in operation and use of the computer in the support functions of the ship. Topics covered include the supply system, computer hardware and software, computer operations, and operation of the various support subsystems. *Version 2:* Methods of instruction include lectures and practical exercises in operation and use of the computer in the support functions of the ship. Topics covered include the supply system, computer hardware and software, computer operations, and operation of the various support subsystems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in basic computing or elements of data processing (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in data processing operations (12/89).

NV-1402-0152

Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat

Course Number: A-551-0093.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a specific nontactical minicomputer system. The student will be able to operate the computer to satisfy a diverse range of administrative and managerial support requirements.

Instruction: Classroom lectures, discussion, hands-on equipment exercises, in-class assignments, and examinations are the instructional methodologies. Topics include basic operation of a line printer, card reader, paper tape reader/punch, keyboard video display terminal and basic operation of the ship's nontactical computer system and subsystems, including supply and financial management, supply control, inventory, requirements and requirement processing, receipt processing, material expenditures, integrated logistics management, and reports.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer operations and 3 in inventory control procedures (12/89).

NV-1402-0153

Shipboard Non-Tactical Automatic Data Processing (SNAP) 3-M Coordinator/Inspector

Course Number: J-500-0029.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA; Submarine Base, New London, Groton, CT; Fleet Training Group, Pearl Harbor, HI; Fleet Mine Warfare Training Center, Charleston, SC; Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a specific minicomputer system to control maintenance inventory.

Instruction: Lectures, classroom discussions, exercises, equipment operation, and examinations are the methods used. Topics include concepts of a planned maintenance system, computer operation, maintenance management, maintenance data accounting, and inventory control.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer operations and 1 in inventory control procedures (12/89).

NV-1402-0154

Naval Aviation Logistics Data Analysis (NALDA)

Course Number: None.

Location: Various locations, Continental US.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe general data base concepts and write commands and programs to extract data from the data base.

Instruction: Lectures and practical exercises focus on the querying of a naval logistics data base. Topics include records, fields, keys, indexes, access time considerations, Boolean algebra, and query methods.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data base programming (6/90).

NV-1402-0155

AN/SWG-1A Harpoon Weapon System Surface Application

Course Number: J-113-1000.

Location: Fleet Training Group, Pearl Harbor, HI; Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, San

Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a guided missile launch control system.

Instruction: Lectures and practical exercises cover guided missile launch control system components, including control panel, launch control computer, operator display, missile simulator, and system power supplies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance and 3 in computer systems and organization (10/91).

NV-1402-0156

Ship Launched Cruise Missile Tomahawk Weapon Control System Operation and Maintenance

Course Number: J-121-0520.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 18 weeks (720 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the control console of a guided missile launch control system; perform the duties of a data base manager, engagement planner, and launch controller; and maintain the launch control system.

Instruction: Lectures and practical exercises cover missile data base management, operator console, troubleshooting, repair, and maintenance of the weapon system launch control console which includes a control computer, peripherals, and power supplies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer literacy, 3 in microprocessors, and 4 in computer systems troubleshooting and maintenance (10/91).

NV-1402-0157

Antisubmarine Warfare (ASW) Operations Center Data Systems Technician

Course Number: J-150-0366.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 23 weeks (920 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair the data processing computer equipment that is integrated into a weapon system operations center.

Instruction: Lectures and practical exercises cover the operation, diagnostic programming, troubleshooting, and repair of a 32-bit CPU and peripherals, including disk and tape drives, printers, CRT displays, X-Y plotters, and data communication and system memory equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer systems and organization, 7 in digital principles, 4 in assembly language programming, and 4 in computer systems troubleshooting and maintenance (10/91).

NV-1402-0158

1. Tactical Support Center Maintenance Technician
2. Antisubmarine Warfare (ASW) Operations Center Acoustic Systems Maintenance Technician

Course Number: *Version 1:* J-102-0364. *Version 2:* J-102-0364.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 17 weeks (680 hours). *Version 2:* 17 weeks (680 hours).

Exhibit Dates: *Version 1:* 11/94–Present. *Version 2:* 1/91–10/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to calibrate basic test equipment; describe the components, characteristics, and operation of computer peripherals, including disk drives, tape drives, X-Y recorder, video display terminals, and printers; and operate, maintain, and troubleshoot the Fast Time Analyzer and peripheral equipment. *Version 2:* Before 1/91 see NV-1402-0092. Upon completion of the course, the student will be able to calibrate basic test equipment; describe the components, characteristics, and operation of computer peripherals, including disk drives, tape drives, X-Y recorder, video display terminals, and printers; and operate, maintain, and troubleshoot the Fast Time Analyzer and peripheral equipment.

Instruction: *Version 1:* Lectures and practical exercises cover the operation and maintenance of computer peripherals, including fast Fourier circuitry and other digital signal processing circuits. Course includes quizzes, written tests, performance tests, and simulations. Topics include electrical/electronic theory, electrostatics, signal analysis displays, antisubmarine warfare nomenclature, magnetic tape subsystem operations and maintenance, three-lens projectors, signal processors, digital readers, laser printers, and analog-to-digital converters. *Version 2:* Lectures and practical exercises cover the operation and maintenance of computer peripherals including fast Fourier circuitry and other digital signal processing circuits.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance and 3 in electronic systems troubleshooting and maintenance (5/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer troubleshooting and maintenance and 3 in electronic systems troubleshooting and maintenance (10/91).

NV-1402-0160

Tomahawk Weapons System DD-963 Class Armored Box Launcher Configuration Operation and Maintenance

Course Number: J-121-0519.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 23 weeks (920 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain a guided missile launching system including target data input and missile launch control and repair and maintain a data base computer, computer display system, data communications equipment, launch console electronics, and missile load and launch electrohydraulic mechanical system.

Instruction: This course consists of J-121-0494 (NV-1402-0162), J-121-0495 (NV-1402-0161), and J-121-0506 (NV-1715-1541). Please see the individual exhibits for descriptions.

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (10/91).

NV-1402-0161

Armored Box Launcher Tomahawk Weapons System Maintenance

Course Number: J-121-0495.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a guided missile control system, including power distribution, computer circuits, and voice and data communication circuits and repair the system to the module level using automatic test equipment and standard electronic test equipment.

Instruction: Lectures and laboratory exercises cover system power supplies, power distribution, computer CPU circuits, memory circuits, CRT display circuits, communications circuits, and fault isolation techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in microprocessors, 3 in microprocessor laboratory, 3 in computer systems troubleshooting and maintenance, and 3 in electronic systems troubleshooting and maintenance (10/91).

NV-1402-0162

Tomahawk Weapons Control System Operator AN/SWG-2

Course Number: J-121-0494.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a missile fire control system including loading data to control missile trajectory and operating missile launching equipment.

Instruction: Lectures and laboratories cover missile-specific fire control equipment, entering data into the missile data base management computer, missile launch control, and documentation procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer literacy and 1 in computer applications laboratory (10/91).

NV-1402-0163

Computer Programming AN/UYK-7 CMS-2(Y) Compiler Language Basic

Course Number: J-7E-0331.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (156 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use the compiler language of the AN/UYK-7 computer to produce executable programs.

Instruction: Lectures and practical exercises cover upper-level assembler language programming techniques.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in assembler language programming and 1 in compiler language programming laboratory (10/91).

NV-1402-0164

Mk 1A Computer Operation and Maintenance

Course Number: J-113-1201.

Location: Fleet Combat Training Center, Yorktown, VA.

Length: 6 weeks (236 hours).

Exhibit Dates: 4/91–Present.

Objectives: Upon completion of the course, the student will be able to operate and perform limited maintenance on a gun fire control computer.

Instruction: Lectures and practical exercises cover the gun fire control computer.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/91).

NV-1402-0165

Antisubmarine Warfare (ASW) Module 4.2 System Operator

Course Number: J-210-0392.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 13 weeks (520 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate an antisubmarine position prediction system and generate submarine position information from system data.

Instruction: Lectures and practical exercises cover the use of the antisubmarine prediction equipment, including operator console, system computer, data display and communication, and signal processing systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer literacy (10/91).

NV-1402-0166

Carrier Antisubmarine Warfare (ASW) Module 4.2 Automated Data Processing Operator

Course Number: J-531-0394.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the data processing component of an antisubmarine detection and tracking system.

Instruction: Lectures and practical exercises cover the operation of a data processing computer and associated peripherals, including tape drives, CRT displays, operator consoles, and printers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer literacy (10/91).

NV-1402-0167

Armored Box Launching Tomahawk Weapon System Maintenance Differences and All Up Round Handling

Course Number: J-121-0507.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 5/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform operator maintenance on a weapon system.

Instruction: Lectures and practical exercises cover the functional description of the weapon control system and loading and unloading procedures.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-1402-0168

Submarine Radioman, Class A

Course Number: *Version 1:* A-101-0276. *Version 2:* A-101-0276.

Location: Submarine Base, New London, Groton, CT.

Length: *Version 1:* 16-18 weeks (559-700 hours). *Version 2:* 22 weeks (880 hours).

Exhibit Dates: *Version 1:* 9/91–Present. *Version 2:* 1/90–3/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the principles of telecommunications systems, operate them, and apply the basics of digital computers, with emphasis on special radio systems on submarines. Students will develop keyboarding skills of 36 words per minute with a maximum of 5 errors. *Version 2:* Upon completion of the course, the student will be able to operate telecommunications systems and describe the basics of digital computers with emphasis on special radio systems on submarines. Students will develop keyboarding skills of 36 words per minute with a maximum of 5 errors.

Instruction: *Version 1:* Lectures and practical exercises cover Navy-specific radio equipment, radio room operation, and typing skills on ASCII keyboard for teletype equipment. Topics include fundamentals of radio communications, including amplitude, frequency, phase and SSB modulation, wave propagation, antennas, and transmission lines. *Version 2:* Lectures and practical exercises cover Navy-specific radio equipment, radio room operation, and typing skills on ASCII keyboard for teletype equipment. Topics include fundamentals of radio communications including amplitude, frequency, phase and SSB modulation, wave propagation, antennas, transmission lines, and basics of digital computers.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems and organization; 3 in keyboarding; 6 in radio transmitters and receivers; and 3 in antennas, transmission lines, and wave propagation (10/91). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization; 3 in keyboarding; 6 in radio transmitters and receivers; and 3 in antennas, transmission lines, and wave propagation (10/91).

NV-1402-0169

Combat Control System (CCS) Mk 1 Mod 1 Combined Maintenance

Course Number: A-130-0300.

Location: Submarine Base, New London, Groton, CT.

Length: 3 weeks (97 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and repair a computer-based combat control system used to control and launch missiles from a submarine.

Instruction: Lectures and practical exercises emphasize the troubleshooting of a control system computer, attack control console, weapon monitor panel, digital missile simulator, and the emergency preset console used in a combat control system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (10/91).

NV-1402-0170

Combat Control System (CCS) Mk 1 Mod 2 Combined Maintenance

Course Number: A-130-0301.

Location: Submarine Base, New London, Groton, CT.

Length: 8 weeks (316 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and repair a computer-centered combat control system used to launch missiles.

Instruction: Lectures and practical exercises use meters, generators, and oscilloscopes to troubleshoot and repair the missile tube control panel, interface control panel, and missile interface console used in a missile combat control system on a submarine.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance (10/91).

NV-1402-0171

1. Radioman 21, Class A
2. Radioman, Class A

Course Number: *Version 1:* A-202-0014. *Version 2:* A-202-0014.

Location: *Version 1:* Service School Command, Great Lakes, IL. *Version 2:* Service School Command, Great Lakes, IL; Service School Command, San Diego, CA.

Length: *Version 1:* 14 weeks (420 hours). *Version 2:* 11 weeks (440 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to process information transfer with state-of-the-art technology such as fiber optics, digital microwave, and tactical and commercial satellites on a global basis; manage and provide software and hardware support for automated information systems such as mainframe, mini and microcomputers, local area networks (LANS), wide area networks (WANS), and telecommunications; and diagnose and perform maintenance of command, control, communications, computer, and intelligence systems. *Version 2:* Upon completion of the course, the individual will be able to keyboard at 40 words per minute, use basic MS-DOS commands and word processing software, operate radio communications equipment, and apply a fundamental knowledge of radio frequency communications principles.

Instruction: *Version 1:* Group-paced lectures and performance activities on computers, microcomputer hardware, and microcomputer software; microcomputer operating systems to include MS - DOS and Windows, introduction to Unix; and introduction to Local Area Networks and Novell System Software. *Version 2:* Lectures and laboratory exercises include keyboarding skills; MS-DOS; word processing; message formatting; frequency spectrum; wave propagation; fundamentals of receivers, transmitters, and antennas; system operation and optimization, and limited troubleshooting.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in microcomputer networks (10/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in introduction to personal computers, and 1 in communications systems (10/96).

NV-1402-0172

Shipboard Non-Tactical Automated Data Processing (SNAP) Basic Operator, Class C1

Course Number: A-532-0042.

Location: Service School Command, San Diego, CA.

Length: 3 weeks (128 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the individual will apply an in-depth knowledge of local area network operation and management, including data security, libraries, utilities, and system recovery techniques to Shipboard Nontactical Automated Data Processing Program (SNAP I) operation.

Instruction: Lectures and laboratory exercises present computer hardware and peripheral device fundamentals for network managers, network operating system (Novell) concepts, network security and hierarchy considerations, directory and file management, libraries, utilities network facilities, and system recovery techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in local area network system management (10/92).

NV-1402-0173

Data Processing Technician, Class A1

Course Number: A-531-0016.

Location: Service School Command, San Diego, CA.

Length: 10 weeks (334 hours).

Exhibit Dates: 8/90–Present.

Learning Outcomes: Upon completion of the course, the individual will have an in-depth knowledge of the operation of mini- and microcomputer systems and peripherals and the MS-DOS operating system, including batch files, configurations, and Norton's utilities. Student will also be proficient in the use of Lotus, dBase, Word Perfect and will be able to program in BASIC.

Instruction: Lectures and laboratory exercises present history and work environment of automatic data processing; data security issues; number systems and codes; operation of mini- and microcomputers; operation of peripheral devices, such as magnetic tape units, printers, and CRTs; application software such as Word Perfect, Lotus, and dBase; programming in BASIC; and concepts of data communications and local area networks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer operation, 2 in microcomputer data communications, 2 in software applications, and 1 in computer programming in BASIC (10/92).

NV-1402-0174

Marine Aviation Logistics Computer Operator

Course Number: C-531-2001.

Location: Technical Training Center, Meridian, MS.

Length: 6 weeks (240 hours).

Exhibit Dates: 6/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use computer systems and networks for business and technical applications.

Instruction: Course covers skills required for mainframe, software, and networking uses. Methods include lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to computers and 3 in computer applications (11/92).

NV-1402-0175

Religious Program Specialist, Class C (Computer Applications)

Course Number: A-561-0004.

Location: Technical Training Center, Meridian, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use ENABLE software and MS-DOS commands to use word processing, spreadsheet, graphics, and data base management applications.

Instruction: Course covers advanced microcomputer applications using ENABLE software. Methods include lectures, discussions, laboratories, and practical exercises.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in advanced computer applications (11/92).

NV-1402-0176

AN/USM(V) Versatile Avionics Shop Test (VAST) Operator

Course Number: C-198-3010.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate computer-controlled automatic test equipment; perform limited troubleshooting of the system to the major subsystem level; and understand the high-level computer language of the test equipment.

Instruction: Classroom lectures cover the test system configuration, operation, and programming language details; practical exercises cover system operation, preventive maintenance, system troubleshooting, and equipment testing.

Credit Recommendation: In the vocational certificate category, 3 semester hours in automatic test equipment operation (12/92); in the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to computers (survey course in computer science) (12/92).

NV-1402-0177

1. UNCRYPT PDP-11 Maintenance
2. Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) Common Core Maintenance

Course Number: *Version 1:* A-102-0290. *Version 2:* A-102-0290.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 8-9 weeks (344 hours). *Version 2:* 6 weeks (240 hours).

Exhibit Dates: *Version 1:* 5/93–1/98. *Version 2:* 2/90–4/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on PDP-11 DEO systems down to the lowest replaceable unit. *Version 2:* Before 2/90 see NV-1402-0069. Upon completion of the course, the student will be able to troubleshoot the PDP-11/40 down to the lowest replaceable unit. The student will use the appropriate technical manuals and test equipment to isolate instructor-inserted faults, while observing all standard safety precautions.

Instruction: *Version 1:* This course consists of lectures, group-paced activities, and laboratory exercises on the PDP-11 series instruction set, number systems, diagnostic programs, core memory and parity, bootstrap terminator various registers CPU, real-time clock, interface cards and system operation and troubleshooting. *Version 2:* Lectures with audiovisual equipment and laboratory experiments support classroom activities. Topics covered in this course are the PDP-11 instruction set, number systems, diagnostic programs, power supply, core memory and parity, bootstrap terminator, the various registers found in the PDP-11, the CPU, real-time clock, and interface cards.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer maintenance (2/93).

NV-1402-0178

EP-3E Software Familiarization

Course Number: C-2D-3816.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon successful completion of this course, the student will be able to use IP-1515 software in conjunction with the

10H1 generic trainer and the ULQ-16 analyzer, to process ESM signals of interest. The student will be able to load a program and configure the software for mission use.

Instruction: Group-paced lectures/laboratories use trainers to reinforce material covered in the classroom. Topics covered are system boot, software data manipulation and ESM mission scenarios using the IP-1515 software package, ULQ-16 analyzer, and 10H1 generic trainer for processing signals of interest.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer laboratory (2/93).

NV-1402-0179

MOBILE SYSTEM TECHNICAL DATA FACILITY OPERATOR

Course Number: A-231-0088.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 3 weeks (100 hours).

Exhibit Dates: 1/90–2/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate the mobile system technical data facility.

Instruction: Lectures cover operation of the mobile system technical data facility by use of menus and commands and introduction and basic operation of the VAX, mass storage server, disk drives, printer-plotter, color graphics terminal, and magnetic tape drive.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer fundamentals/applications (2/93).

NV-1402-0180

CRYPTOLOGIC SYSTEMS PROGRAMMER/MANAGER

Course Number: A-532-0035.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 13 weeks (520 hours).

Exhibit Dates: 9/91–2/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and correct system programs at the highest level as a cryptologic system programmer.

Instruction: Lectures and laboratory exercises are used to introduce the student to VAX/VMS utilities, VAX computer, DEC/VAX equipment architecture, operating system design, assembly language programming, data base management and design, and Pascal.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer programming (2/93).

NV-1402-0181

MOBILE SYSTEMS TECHNICAL DATA FACILITY/ SIGINT CLASSIFICATION OF RECOGNIZED EMITTERS MAINTENANCE

Course Number: A-102-0356.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (133 hours).

Exhibit Dates: 8/90–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on a mobile systems technical data facility.

Instruction: Group-paced lectures and laboratory exercises cover the color graphics terminal; theory, preventive maintenance, and documented corrective maintenance on the graphics terminal; alignment and adjustment procedures; tape storage system; and troubleshooting of subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer maintenance laboratory (2/93).

NV-1402-0182

1. VAX SYSTEMS MAINTENANCE TECHNICIAN
2. UNIVERSAL CRYPTOLOGIC PROCESSOR TRAINING SHORE CRYPTOLOGIC SUPPORT SYSTEM VAX MAINTENANCE

Course Number: *Version 1:* A-102-0315. *Version 2:* A-102-0315.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 20 weeks (800 hours). *Version 2:* 16 weeks (516 hours).

Exhibit Dates: *Version 1:* 6/93–Present. *Version 2:* 4/90–5/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on DEC Vax based systems in a clustered environment which hosts local area networks. *Version 2:* Upon completion of the course, the student will be able to perform preventive and documented corrective maintenance on computer-based systems in a clustered environment which hosts local area networks.

Instruction: *Version 1:* This course includes group-paced lectures and laboratory exercises on Vax systems maintenance; digital systems, data communications, local area networks, and Vax clusters; preventive and corrective maintenance on Vax/VMS systems; ethernet local area networks, fiber optics, and DEC bridges; CD/ROM reader and laser printers; digital UNIX operating system; hardware maintenance; and troubleshooting of the Vax system. *Version 2:* Group-paced lectures and laboratory exercises are used to prepare the student to perform preventive and corrective maintenance on the system. Topics covered include introduction to computer systems; VAX/VMS hardware maintenance; console subsystem; traps, interrupts, and clock generator modules; buffers; and maintenance and troubleshooting the VAX computer.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (2/98); in the upper-division baccalaureate category, 3 semester hours in networking (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in computer maintenance laboratory (2/93).

NV-1402-0183

SIGINT CLASSIFICATION OF RECOGNIZED EMITTERS

Course Number: A-231-0092.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 3 weeks (97 hours).

Exhibit Dates: 1/90–8/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate the SCORE system at the apprentice level.

Instruction: Lectures are presented on the operation of the control processor, system console, operator console, VAX computer, and computer peripherals. The student will perform at the level of an apprentice.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer fundamentals/applications (2/93).

NV-1402-0184

OUTBOARD OPERATOR

Course Number: *Version 1:* A-231-0054. *Version 2:* A-231-0054.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 5 weeks (200 hours). *Version 2:* 10 weeks (332-333 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/92–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform cryptologic combat support and other related duties in tactical support of warfare commanders in all areas of warfare. *Version 2:* Upon completion of the course, the student will be able to perform cryptologic combat and other related support.

Instruction: *Version 1:* This course consists of group-paced lectures, demonstrations, and laboratory exercises application of non-Morse communications; application of signals analysis; theory of operation of outboard CESM equipment; description and operation of countermeasures receiving set; and basic operation of alternate communications modes. *Version 2:* Lectures and laboratories involve Morse code proficiency; electronic warfare; the combat information center; threat countries and types of platforms; US naval fleet communications; outboard reporting; technical support; signal security; tactical applications; and an introduction to the theory, function, interfacing, and operation of various types of communications, control, display, and interfacing equipment associated with cryptologic operations.

Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (2/98). *Version 2:* Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1402-0185

TACTICAL INTELLIGENCE OPERATOR

Course Number: A-231-0052.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (113 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to, with supervision, operate equipment associated with fleet tactical intelligence operations. Students will be able to operate equipment under normal and degraded operating conditions.

Instruction: Lectures, demonstrations, and hands-on laboratory cover terminology, capabilities and limitations, modes of operation and sequencing, location and function of all controls, and operational procedures. Equipment includes high-frequency direction finding, over the horizon targeting, UHF satellite communications, and computerized tactical intelligence equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/98).

NV-1402-0186

Outboard Division Chief

Course Number: A-231-0095.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (463 hours).

Exhibit Dates: 5/91–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate and manage cryptologic and other specific equipment in a combat and control environment.

Instruction: Classroom lectures and laboratories involve Morse code proficiency; cryptologic management; fleet orientation; threats; US naval fleet communications; outboard reporting; technical support; signal security; tactical applications; and an introduction to the theory, function, interfacing, and operation of various types of communications, control, display, and interfacing equipment associated with cryptologic operations.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1402-0187

Cryptologic Combat Support Division Chief

Course Number: A-231-0071.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (288 hours).

Exhibit Dates: 1/92–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate and manage fleet cryptographic assets, particularly the cryptographic combat control console, under normal and degraded operating conditions.

Instruction: Classroom lectures and laboratories cover cryptologic management, fleet operations/orientation, communications resources, threats, cryptologic operations, and naval warfare, with emphasis on the use and operation of the AN/SSQ-93(V) and the AN/ASQ-11.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1402-0188

Cryptologic Combat Systems Operator

Course Number: A-231-0072.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (198 hours).

Exhibit Dates: 1/92–8/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate the cryptologic combat support system (CCSS) and the cryptologic combat support console (CCSC) under normal and degraded operating conditions.

Instruction: Classroom lectures and laboratories cover threat countries and platforms, naval communications, US Navy fleet support and operations, and an introduction to the use and operation of the AN/SSQ-93(V) CCSC and the AN/ASQ-111 CCSS.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1402-0189

Cryptologic Combat Support System/Console (CCSS/SC)

Course Number: A-3B-0024.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (66 hours).

Exhibit Dates: 1/90–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to coordinate cryptologic operations; determine tactical significance of cryptologic/non-cryptologic data, and integrate that with other intelligence; identify cryptologic requirements and be familiar with cryptologic briefings; have an in-depth knowledge of and familiarity with the CCSS/CCSC system and subsystem; and be able to utilize same.

Instruction: Classroom lecture and laboratory covering organization and management of the cryptologic combat support system and the Cryptologic Combat Support Console (CCSS/CCSC) with applications.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1402-0190

Bullseye Outstation Operator

Course Number: A-231-0094.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (472 hours).

Exhibit Dates: 1/90–5/94.

Learning Outcomes: Upon completion of the course, the student will be able to perform the functions of a Bullseye outstation operator at the apprentice level.

Instruction: Group-paced lectures and laboratory exercises are used to provide the student with instruction on outstation operations and programs, Morse code, time code generator, sonograph, wideband system, narrowband control subsystem, and direction finding subsystem.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1402-0191

Afloat Cryptologic Management, Common Core

Course Number: A-3B-0020.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (130-132 hours).

Exhibit Dates: 5/91–3/96.

Learning Outcomes: Upon completion of the course, the student will have knowledge and understanding of fleet cryptologic assets and their management. Upon completion, student will proceed to other courses which will provide more specific training.

Instruction: Classroom lectures cover cryptologic management, fleet orientation, communications resources, threats, cryptologic operations, and naval warfare.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1402-0192

Electronic Warfare Technician CV/CVN Operations

Course Number: A-102-0211.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 3 weeks (95 hours).

Exhibit Dates: 1/90–2/93.

Learning Outcomes: Upon completion of the course, the trainee will be able to describe the theory necessary to support and understand the performance of normal operational tasks or mechanical breakdown without going into logic, circuit, or program flow diagrams on the AN/SLQ-17 and AN/WLR-1H.

Instruction: Group-paced lectures cover the course content. Laboratory instruction uses the AN/SLQ-17 and AN/WLR-1H to reinforce material covered in lecture. Topics covered include terms, abbreviations, system characteristics, various operator modes, antenna assemblies, and the correct use of built-in test equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer operations (1/93).

NV-1402-0193

Universal Cryptologic Processor Training (UNCRYPT) Flaghoist VAX Maintenance

Course Number: A-102-0360.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5-6 weeks (180 hours).

Exhibit Dates: 1/90–11/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on all Digital Equipment Corporation components/equipment utilized in the (AN/FSQ-138) Flaghoist System.

Instruction: Group-paced lectures, video tapes, and laboratory exercises are used to prepare the student in functional and operational theory, disassembly and reassembly, and in troubleshooting the system. Topics covered include digital buses, Microvax II computer, disk drives, magnetic tape drive, and fault isolation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer maintenance (1/93).

NV-1402-0194

Cryptologic Combat Support Console Maintenance

Course Number: A-102-0297.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4-5 weeks (147 hours).

Exhibit Dates: 12/92–11/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the cryptologic combat support console (AN/SSQ-93(V)) to the modular level.

Instruction: Group-paced lectures and laboratory exercises are used to teach students the theory, laboratory practice, preventive maintenance, and troubleshooting needed to maintain a combat support console. Topics of instruction include the theory and operation of the console, computer/processor, fault isolation, and corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer maintenance (2/93).

NV-1402-0197

Wideband Acquisition and Analysis Systems Maintenance
(Wideband Acquisition and Analysis Maintenance)

Course Number: A-102-0230.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 25 weeks (832-850 hours).

Exhibit Dates: 2/90–11/96.

Learning Outcomes: Before 2/90 see NV-1402-0068. Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the wideband acquisition system to the component level.

Instruction: Group-paced lectures and laboratory experiences cover wideband acquisition and analysis, hardware and software operations, signal digitizers and processors, logic circuits, communications protocol, troubleshooting and maintenance to the component level, and communications controllers.

Credit Recommendation: In the upper-division baccalaureate category, 4 semester hours in data communications systems (2/98).

NV-1402-0198

Cryptologic Technician M, Universal Cryptologic Processor Wideband Subsystem Maintenance, Class C

Course Number: A-102-0291.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7-8 weeks (240 hours).

Exhibit Dates: 12/90–10/93.

Learning Outcomes: Before 12/90 see NV-1402-0070. Upon completion of the course, the trainee will be able to troubleshoot the PDP-11/34 down to the lowest replaceable unit. The student will also perform preventive and corrective maintenance on the Wideband Acquisition and Analysis System in accordance with approved standards and appropriate technical manuals.

Instruction: Lectures with audiovisual equipment and supervised laboratory exercises cover PDP-11/34 computer system, Wideband Acquisition and Analysis system, memory management diagnostic test, basic instruction test, bootstrap loader, and troubleshooting and repair using system diagnostics and standard test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital computer maintenance (2/93).

NV-1402-0199

1. Cryptologic Technician Communications, Class A
2. Cryptologic Technician O, Class A

Course Number: *Version 1:* A-260-0030. *Version 2:* A-260-0030.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 13-14 weeks (544 hours). *Version 2:* 9 weeks (280-336 hours).

Exhibit Dates: *Version 1:* 3/97–Present. *Version 2:* 6/91–2/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform operator level windows NT server functions, identify the components of a local area network, identify standard network topologies, define and describe asynchronous and synchronous transmission modes, state the purpose of multiplexing, identify standard ethernet components, describe the benefits of shared network applications, and identify the terms associated with computer systems technology. *Version 2:* Before 6/91 see NV-1402-0071. Upon completion of the course, the student will be able to type 35 words per minute at 96 percent accuracy, prepare naval messages in four different formats, read teletypewriter data at 50 wpm, operate cryptographic equipment, and operate cryptographic communications equipment.

Instruction: *Version 1:* Group-paced lecture and laboratory cover entry level computer operations and networking. The course includes basic computer skills including hardware, software, and operating systems; multiplexers; and modems. *Version 2:* Group-paced lectures and laboratories cover safety, touch typing, introduction to computers, message format(s), TSEC/KE 84A encryption and TSEC/KW-46 broadcast security equipment, and communications circuits and networks.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in applications and 3 in local area networks (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in typing (5/95).

NV-1402-0200

F/A-18 Enhanced Comprehensive Asset Management System Operator Organizational Maintenance
(F/A-18 Data Processing Set)

Course Number: C-150-3867.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 9/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, under limited supervision, a data processing set and data station equipment.

Instruction: Lectures and practical exercises cover data processing and data base setup and maintenance procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in computer data processing (8/93).

NV-1402-0201

AN/ASM-686 Night Attack Intermediate Avionics Test Set Operator/Maintenance

Course Number: C-102-4043.

Location: Air Maintenance Training Group, Lemoore, CA.

Length: 7 weeks (256 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform intermediate level maintenance, under close supervision, on an avionics test set.

Instruction: Lectures and practical exercises cover the operation and troubleshooting of an avionics test set.

Credit Recommendation: In the vocational certificate category, 1 semester hour in microprocessor theory (8/93).

NV-1402-0202

AN/ASM-607(V) (Series) Computer Memory Loader-Verifier Test Set Intermediate Maintenance

Course Number: C-198-3886.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, repair, maintain, and troubleshoot the AN/ASM-607(V) series computer memory loader-verifier test set.

Instruction: Course covers the theory, function, and purpose of tape-to-tape and UV EPROM reprogramming, ESD precautions, contamination implications, computer error code messages, logic tree format, and wiring faults. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in microprocessor programming (7/94).

NV-1402-0203

Intelligence Center Maintenance

Course Number: J-150-2019.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 13 weeks (520 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain the digital computer systems, local area networks, and operating systems found in the intelligence center of large naval ships.

Instruction: Lectures, exercises, significant hands-on experiences, and troubleshooting procedures using standard test equipment provide preventive maintenance and repair services on all classes of computing equipment to be found in a shipboard intelligence center. Equipment includes the Zenith ZZA8 intelligent terminal, Xenix operating systems, graphical and imagery systems, ocean surveillance terminals, and local area networks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to local area networks, 2 in computer maintenance and repair or 2 in maintenance of electronic and computer equipment, and 2 in minicomputer operations (9/94).

NV-1402-0204

Navy Tactical Command System Afloat Integrated Data Base Analyst

Course Number: J-150-2956.

Location: Fleet Intelligence Training Center, Pacific, San Diego, CA; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functions of the naval tactical command system on shipboard as it relates to intelligence gathering and processing services, communication with users relative to making data base queries on intelligence matters, and preparing reports of data received for the queries.

Instruction: Course includes lectures and extensive hands-on laboratory exercises to query, display, print, map, file, and plot the data received as a result of a data base query. Student will be exposed to UNIX, SYBASE, MS/DOS, mapping, and imagery techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in introduction to data base functions and 2 in mini-/microcomputer applications (9/94).

NV-1402-0205

NAVY TACTICAL COMMAND SYSTEM AFLOAT INTELLIGENCE CENTER MANAGER

Course Number: J-150-2957.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functions of a shipboard intelligence center from a management perspective, including knowledge of system hardware and software, data base management, and system administration requirements.

Instruction: Lectures, demonstrations, class participation, and examinations prepare the student to manage a shipboard intelligence center, including hardware and applications software support, message drafting, processing incoming messages, and networking to facilities outside the intelligence center.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (9/94).

NV-1402-0206

NAVY TACTICAL COMMAND SYSTEM AFLOAT SYSTEM ADMINISTRATION

Course Number: J-150-2955.

Location: Fleet Intelligence Training Center, Pacific, San Diego, CA; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 7 weeks (280 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the function of the naval tactical command system used to support intelligence gathering activities, the hardware on which it functions, and its associated operating systems. Data base administration functions include an understanding of network architecture, system shutdown and activation, retrieval processes, menu systems, and output options.

Instruction: Lectures, class discussions, examinations, and extensive laboratory exercises are designed to familiarize students with all aspects of the data base administration functions needed to support this system, including hardware, software, operating systems, and retrieval processes. UNIX and MS/DOS operating systems, software installation and maintenance, communications interfaces, system administration, and disaster recovery are studied in detail.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data base administration, 3 in data base systems, 2 in data base access and retrieval, and 2 in mini-/microcomputer operations (9/94).

NV-1402-0207

TACTICAL AIRCRAFT MISSION PLANNING SYSTEM (TAMPS) SYSTEM ADMINISTRATOR

Course Number: J-150-2965.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 11/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the computer-based tactical aircraft mission planning system.

Instruction: Lectures and significant hands-on laboratory experiences include signing-on, activating the system, retrieving information, and formatting reports.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (9/94).

NV-1402-0208

INTELLIGENCE ANALYSIS SYSTEM ADMINISTRATOR

Course Number: J-240-0976.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (105-106 hours).

Exhibit Dates: 11/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to provide technical and administrative support to a UNIX operating system and will have sufficient knowledge to configure the system, troubleshoot problems, monitor disk storage activity, connect peripheral devices, and provide networking of the system to locally attached workstations and to other wide area networks.

Instruction: Lectures, exercises, examinations, and significant hands-on experience provide the skills necessary to support a UNIX operating system capable of running various applications and connecting users to both locally attached systems and external networks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in UNIX, UNIX operating systems, and administering UNIX operating systems (9/94).

NV-1402-0209

INTELLIGENCE ANALYSIS SYSTEM OPERATOR

Course Number: HEZ.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (72 hours).

Exhibit Dates: 12/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a PC-based intelligence analysis system. Functions include the use of various Windows menus to retrieve and format responses to intelligence queries.

Instruction: Lectures and hands-on laboratory exercises cover using the system, understanding Windows processing, imaging, and developing spreadsheets.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in microcomputer applications (9/94).

NV-1402-0211

DATA LINK COMMUNICATION SYSTEM MAINTENANCE TECHNICIAN

Course Number: A-101-0148.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 14 weeks (560 hours).

Exhibit Dates: 3/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operational characteristics and perform corrective maintenance on a digital computer and its associated peripheral devices (magnetic tape drive, CRT display). In addition, the student will be able to perform corrective maintenance on a shipboard communications system.

Instruction: Lectures and practical exercises cover computer instruction sets, I/O and interrupt processing, magnetic tape drives, radio receivers, antenna couplers, radio transmitters, radio test sets, and a digital communications system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance (3/95); in the upper-division baccalaureate category, 3 semester hours in advanced computer systems and organization (3/95).

NV-1402-0212

DATA LINK COMMUNICATION SYSTEM MAINTENANCE TECHNICIAN

Course Number: A-101-0263.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 25 weeks (1000 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operational characteristics and perform corrective maintenance on a digital computer and its associated peripheral devices (magnetic tape drives, CRT display). In addition, the student will be able to perform corrective maintenance on a shipboard communications system.

Instruction: Lectures and practical exercises cover computer instruction, I/O and interrupt processing, radio transmitters, radio test sets, and a digital communications system. This course is comprised of A-101-0148, Data Link Communication Systems Maintenance Technician and A-160-0069, TSEC/KG-40 Limited Maintenance, a classified course containing instruction in the operation and preventive and corrective maintenance of equipment, assemblies, and subassemblies. That course was not evaluated.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance

(3/95); in the upper-division baccalaureate category, 3 semester hours in advanced computer systems and organization (3/95).

NV-1402-0213

Data Terminal Equipment Maintenance

Course Number: A-150-0017.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 17 weeks (636 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the organization and operation of a computer system and its components.

Instruction: Instruction includes theory and laboratory experiences in understanding set controls, microcomputer instructions, formats and classifications, program interpretation and execution, logic elements, controller, clock, subroutine analysis, emulation, macro programs, I/O function, interrupts, diagnostics, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (3/95); in the upper-division baccalaureate category, 3 semester hours in advanced computer systems and organization (3/95).

NV-1402-0214

LHD Exterior Communications System Maintenance

Course Number: A-101-0234.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 22 weeks (902 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be qualified to perform preventive and corrective maintenance as well as alignment of the AN/URC-109(V) communication set and AN/SSQ-33 surface ship exterior communication control system (SSECCS).

Instruction: Lectures and practical exercises in system configuration, signal detection, subsystem alignment, broad and narrow band operation, system troubleshooting, digital numbering systems, program loading, boot tape generation, computer controller consoles, power management, and antenna installation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour computer systems and organization and 6 in electronic systems troubleshooting and maintenance (3/95).

NV-1402-0215

DD-963 Computer/Peripheral Subsystem Maintenance
(DD-963 Class Ship's Computer/Peripheral Subsystem Maintenance)

Course Number: A-150-0109.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 27 weeks (1107 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Before 11/91 see NV-1715-1261. Upon completion of the course, the student will be able to operate and troubleshoot a minicomputer system; write machine language programs for the computer; use software diagnostic aides; and replace subsystem components, including I/O control consoles, magnetic tape units, digital data connectors, and data display equipment.

Instruction: Lectures and practical exercises cover the theory and troubleshooting of a general purpose computer and its peripherals. An in-depth understanding of the computer's operation, instruction repertoire, signal flow, and subsystem logic is presented. The course emphasizes fault isolation to circuit level using diagnostic programs and basic test equipment. The course includes topics pertaining to all peripheral subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer/peripheral repair (3/95); in the upper-division baccalaureate category, 2 semester hours in advanced computer architecture and 3 in computer systems and organization—peripherals (3/95).

NV-1402-0216

AN/UYK-7 FFG-7/36/61 Class Ship Computer/Peripheral Maintenance
(FFG-7/36/61 Class Ships Computer/Peripheral Subsystem Maintenance)

Course Number: A-150-0135.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 25 weeks (1049 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and troubleshoot a minicomputer system; write machine language programs for the computer; use software diagnostic aids; and replace subsystem components, including I/O control consoles, magnetic tape units, digital data connectors, and data display equipment.

Instruction: Lectures and practical exercises cover the theory and troubleshooting of a general purpose computer and its peripherals. An in-depth understanding of the computer's operation, instruction repertoire, signal flow, and subsystem logic is presented. The course emphasizes fault isolation to the circuit board level using diagnostic programs and basic test equipment. The course includes topics pertaining to all peripheral subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer peripheral repair (3/95); in the upper-division baccalaureate category, 2 semester hours in computer architecture and 3 in advanced computer systems and organization (3/95).

NV-1402-0219

AN/UYK-65(V) Shipboard Non-Tactical Automated Data Processing (SNAP-I) Maintenance System

Course Number: A-150-0250.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 23 weeks (912 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Before 2/93 see NV-1715-1265. Upon completion of the course, the student will be able to describe the theory necessary to support and understand the performance of the equipment and perform routine preventive and corrective maintenance on processor groups, communications subsystem, magnetic disk storage subsystem, magnetic tape storage subsystem, and unit recorders.

Instruction: The AN/UYK-65(V) is an Intel 80286 based computer system. There are lectures and practical exercises in computer system bootstrapping, initialization, system status verification, corrective adjustments, and card-level maintenance using software and/or firmware diagnostic routines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization and 6 in computer systems troubleshooting and maintenance (3/95).

NV-1402-0220

CV/CVN Combat Direction System (ASWM) Computer/Peripheral Subsystem Maintenance

Course Number: A-150-0260.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 25 weeks (1025 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a computer-based application system; understand system hardware components and their interfaces to the central processor; and perform first level basic and corrective maintenance, alignment, and adjustment of the system and components.

Instruction: Lectures and extensive hands-on laboratory experiences cover a computer-based applications system requiring the facilities of a large array of peripheral devices. The hardware environment includes central processors; tape, disk, and terminal devices; line printers; and links to various analog/digital line converters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer operations and 3 in computer systems and peripheral equipment maintenance and troubleshooting (3/95).

NV-1402-0221

CV/CVN/LHD Combat Direction System AN/UYQ-21 Display Maintenance Technician

Course Number: A-150-0261.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 37 weeks (1480 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be qualified to perform prevention and corrective maintenance on the AN/UYQ-21 display system. This system is a multimicroprocessor system containing a small number of functional modules.

Instruction: Lectures and practical exercises cover radar target simulation, power distribution, synchros, A/D and D/A converters, programmable array logic, basic microprocessor operation, raster and vector displays, display multiplexers, thermal printer/plotter, digital switchboard, and basic soldering techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance and 6 in electronic systems troubleshooting and maintenance (3/95).

NV-1402-0222

CG/CGN Combat Direction System Upgrade OJ-194A(V)3UYA-4(V) Display Maintenance Technician
(CG/GGN/DD-993 Combat Direction System Upgrade OJ-194A(V)3/UYA-4(V) Display Maintenance Technician)

Course Number: A-150-0262.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 37 weeks (1480 hours).

Exhibit Dates: 2/92–1/94.

Learning Outcomes: Upon completion of the course, the student will be qualified to perform preventive and corrective maintenance on the AN/UYQ-21 display system. This system is a multimicroprocessor system containing a small number of functional modules.

Instruction: Lectures and practical exercises cover radar target simulation, power distribution, synchros, A/D and D/A converters, programmable array logic, basic microprocessor operation, raster and vector displays, display multiplexers, thermal printer/plotter, digital switchboard, and basic soldering techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance and 6 in electronic systems troubleshooting and maintenance (3/95).

NV-1402-0223

CG/CGN/DDG CDS Upgrade AN/UYK-43 Computer/Peripheral Maintenance
(CG/GGN Combat Direction System Upgrade AN/UYK-43 Computer/Peripheral Maintenance Technician)

Course Number: A-150-0269.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 33 weeks (1320 hours).

Exhibit Dates: 2/92–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and operate a minicomputer system, write machine language programs for the computer, use software diagnostic aides to isolate and define problems, and replace subsystem components within the central processor.

Instruction: Lectures and extensive practical exercises pertain to the theory and troubleshooting of a general purpose computer and its peripherals. An in-depth understanding of the computer's operation, instruction repertoire, signal flow, and subsystem logic is presented. The course emphasizes fault isolation to the circuit board level using diagnostic programs and basic test equipment. Studies include experiences with all supporting peripheral subsystems, including magnetic tape units, I/O control consoles, digital data converters, disk storage devices, and data display equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer/peripheral repair (3/95); in the upper-division baccalaureate category, 2 semester hours in computer architecture and 3 in advanced computer systems and organization (3/95).

NV-1402-0224

LHD Computer and Peripheral Equipment Maintenance

Course Number: A-150-0271.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 23 weeks (910 hours).

Exhibit Dates: 4/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a microcomputer-based applications system, understand system hardware components and their interfaces to the control processor, and perform system maintenance to the level of field-replaceable modules.

Instruction: Lectures and extensive hands-on laboratory experiences cover the operation of a microcomputer-based applications system requiring the facilities of a large array of peripheral devices. The hardware environment includes a central processor; tape, disk, and terminal devices; line printers; and a data communications component that provides data input from remote locations to the central processor.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and peripheral equipment maintenance and troubleshooting, 2 in computer operations, and 2 in data communications and networking (3/95).

NV-1402-0225

Aircraft Carrier Inertial Navigation System Operation and Maintenance

Course Number: A-193-0374.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 21 weeks (826 hours).

Exhibit Dates: 7/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, and maintain an inertial navigational system. The student will also be able to interface the system with other electronic systems.

Instruction: Lectures and laboratory experiences are integrated into this course of study. Subjects addressed in this course are digital logic basic concepts, microprocessor fundamentals and timing functions, magnetic recording theorems and data formatting, basic navigation theory, inertial navigational theory, alignment/maintenance, NAVSAT/global positioning systems, and the mathematics and trigonometry needed to understand the concepts.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital logic principles, 3 in navigation theory, and 1 in trigonometry (3/95).

NV-1402-0226

Mk 74 Mod 15 Missile Fire Control System Operation and Maintenance
(Mk 74 Mod 15 (NTU) Missile Fire Control System Operation and Maintenance)

Course Number: A-104-0189.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 33 weeks (1320 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply digital logic, digital timing circuits, microprocessor systems control, and selected communications concepts.

Instruction: The course is composed of periods of both formal classroom training and accompanying laboratories. Relevant mathematics is included in the course. Problem solving and associated schematic reading is integrated throughout the course. Students accepted into the course will have already graduated from a class in which they mastered basic electronic/electrical theorems. This course includes instruction in pulse receiver/transmitters, CW receivers/transmitters, frequency, shift devices, microprocessor control, timing considerations, electrical power distribution and control, troubleshooting and fault isolation concepts, transmitter modulation concepts, waveguide theory, and various test signal/display operation and maintenance. The student will be provided extensive hands-on experience in all areas. In addition, the student will be required to demonstrate competence with various forms of test and recording equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital logic, 3 in microwave transmission, 3 in microprocessor theory, and 2 in electronic troubleshooting theory/maintenance (3/95).

NV-1402-0227

Mk 74 Mod 14 (NTU) Missile Fire Control Operation and Maintenance

Course Number: A-104-0196.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 27 weeks (1080 hours).

Exhibit Dates: 1/90–6/94.

Learning Outcomes: Upon completion of the course, the student will be able to apply digital logic, digital timing circuits, microprocessor systems control, and selected communications concepts.

Instruction: The course is composed of periods of both formal classroom training and accompanying laboratories. Relevant mathematics is included in the course. Problem solving and associated schematic reading is integrated throughout the course. Students accepted into the course will have already graduated from a class in which they mastered basic electronic/electrical theorems. This course includes instruction in pulse receiver/transmitters, CW receivers/transmitters, frequency, shift devices, microprocessor control, timing considerations, electrical power distribution and control, troubleshooting and fault isolation concepts, transmitter modulation concepts, waveguide theory, and various test signal/display operation and maintenance. The student will be provided extensive hands-on experience in all areas. In addition, the student will be required to demonstrate competence with various forms of test and recording equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital logic, 3 in microwave transmission, 3 in microprocessor theory, and 2 in electronic troubleshooting theory/maintenance (3/95).

NV-1402-0228

Tartar Weapons Direction System Mk 14 Mod 5 (NTU)

Course Number: A-150-0253.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 24 weeks (960 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the Tartar weapons direction system.

Instruction: This course of instruction is composed of formal lecture periods and associated laboratory periods. Subjects taught during this course include microprocessor architecture and operations, magnetic recording devices operation and maintenance, communications techniques (both analog and digital), antenna theory/maintenance, and overall system operation concepts.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer system troubleshooting and maintenance and 3 in applied control systems (3/95).

NV-1402-0229

Weapon Direction System Mk 14 Mod 5 New Threat Upgrade

Course Number: A-150-0268.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 24 weeks (864 hours).

Exhibit Dates: 10/91–2/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the Tartar weapons direction system.

Instruction: This course of instruction is composed of formal lecture periods and associated laboratory periods. Subjects taught during this course include microprocessor architecture and operations, magnetic recording devices operation and maintenance, communications techniques (both analog and digital), antenna theory/maintenance, and overall system operation concepts.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer system troubleshooting and maintenance and 3 in applied control systems (3/95).

NV-1402-0230

Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst

Course Number: C-555-2012.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform data entry, system security, data base configuration, statistical analysis, upline reporting, and data base troubleshooting and maintenance of naval aviation information systems, while ensuring data base integrity.

Instruction: Course includes lectures and laboratories in computer system operations, performing data base maintenance, and applying statistical analysis to aviation maintenance data derived from naval information systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer operations and 1 in software applications (1/97).

NV-1402-0231

Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst

Course Number: C-555-2013.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and analyze naval aviation information systems.

Instruction: Course includes lectures and laboratories in processing source documents, installing and running system software, maintaining information system personal computers, and analyzing statistical data relative to aviation maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer operations and 1 in software applications (1/97).

NV-1402-0232

Shipboard Non-Tactical Automated Data Processing (SNAP 3) System Administration

Course Number: A-531-0021.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 9/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to effectively and efficiently manage a SNAP 3 equipped platform using procedures necessary to manage a ported SNAP 1 and a ported SNAP 2 system, administer safety regulations and safeguards associated with the SNAP 3 installation, identify the two types of JMCIS codes, and manage the eight common ashore/afloat functions provided by the JMCIS system.

Instruction: Methods include hands-on experience, homework assignments, training manuals, lectures, and demonstrations. The topics covered include microcomputer orientation, law, security systems, JMIS introduction, personal computer configuration, SNAP computer configuration, and operation and management of SNAP 3 subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic computer operation (11/95).

NV-1402-0234

Computer CP-890A B/UYK Input/Output Controller Maintenance

Course Number: A-193-0338.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3-4 weeks (102-120 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Before 8/94 see NV-1402-0079. Upon completion of the course, the student will perform maintenance as required on a navigation computer.

Instruction: Lectures and laboratory exercises cover the functional descriptions of the computer input/output controller, master clock, timing chain, sequencer, master clear circuitry, real time clock, control memory operations, external function/output data operations, input data operations, external interrupt operations, and the computer input/output controller special operations. Slightly over one third of the course is spent in maintenance and troubleshooting laboratory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer input/output operations and troubleshooting (4/96).

NV-1402-0235

Computer CP-890A B/UYK Processor Maintenance

Course Number: A-193-0337.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3 weeks (116 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Before 8/94 see NV-1402-0080. Upon completion of the course, the student will perform maintenance on a navigation computer.

Instruction: Lectures and laboratories cover the functional descriptions of the processor add-subtract, nonsequential interrupt, repeat, shift, complex arithmetic, floating point operations, and the processor instruction set. Approximately one half of course time is spent in laboratory work on corrective maintenance and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer CPU theory and troubleshooting (4/96).

NV-1402-0236

Command and Control Processor Subsystem Operator

Course Number: K-221-0169.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Fleet Combat Training Center, Pacific, San Diego, CA.

Length: 1-2 weeks (45-60 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the control information processing system and network, perform normal and abnormal operating procedures, and perform basic operator troubleshooting for a command and control computer-based system.

Instruction: Lectures, laboratories, and demonstrations are used in a group-paced instructional mode coupled with self-paced learning modules (problems) and team analysis exercises. Topics include computer and network operation descriptions, computer operating processes, basic information acquisition and processing, and basic system fault analysis.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer/network operations laboratory (5/96).

NV-1402-0237

Command Control Systems Ashore Display Operator

Course Number: J-221-2306.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the ashore operations support system, a graphical/menu driven computer-based interactive information processing and communications system.

Instruction: Classroom lectures, laboratory exercises, and demonstrations are used to create operational proficiency. Topics covered include operational description of the overall system, descriptions of system functions, descriptions of steps involved in obtaining specific information or outcomes, computer-driven plotting and tracking processes, and automated communications (data forwarding).

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (5/96).

NV-1402-0238

CV/CVN Combat Direction Center Operator

Course Number: J-221-0334.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Fleet Combat Training Center, Pacific, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the shipboard combat system and display consoles as a member of the combat information center team.

Instruction: Lectures, laboratories, demonstrations, and simulations are used to create operational proficiency and teamwork. Topics covered include teamwork; management; communications and information processing sequences and procedures; equipment operating requirements and procedures; and basic plotting, identification, charting, tracking, and controlling procedures.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (5/96).

NV-1402-0239

Command Control Systems Ashore System Manager

Course Number: J-221-2307.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 5/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, manage, and administer the operations support system of the ashore command and control system. The student will have a working knowledge of UNIX, SQL, and Oracle.

Instruction: Lectures, demonstrations, laboratory exercises, and written examinations are used to create knowledge and proficiency in the operation of computers using UNIX, SQL, and Oracle systems and programs. Topics covered include UNIX operating system, shell, file structure, management, editing, utility programs, job control, networking, start up, administration, and peripheral operation; Oracle relational database structure, operation, and administration; SQL *Plus commands and processes; and OSS data base administration.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in UNIX system administration and shell programming and 1 in introduction to data base programming. (Oracle and SQL) (5/96).

NV-1402-0240

Weapon Direction System Mk 14 Mod 5 Operator (Common Program)
(Weapon Direction System Mk 14 (MR) New Threat Upgrade)

Course Number: J-113-1007.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate an integrated automatic detection and tracking system (consisting of radar, data processor/magnetic tape recorder, recorder/reproducer, and display console) in conjunction with a weapons direction system for medium-range missiles.

Instruction: Methods of instruction include classroom, practical application, and homework assignments. Topics covered are computer console preparation/initialization, medium-range missile system initialization, battle doctrine, weapons engagement coordination operation and responsibilities, fire control console operation and responsibilities, and stand-alone operations and responsibilities.

Credit Recommendation: In the vocational certificate category, 2 semester hours in control system operations (5/96).

NV-1402-0241

Weapon Direction System Mk 14 Mod 5 Operator

Course Number: J-113-1008.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 11/92–10/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate an integrated automatic detection and tracking system (consisting of radar, data processor/magnetic tape recorder, recording/reproducer, and display console) in conjunction with a weapons direction system for medium-range missiles.

Instruction: Methods of instruction include classroom, practical application, and homework assignments. Topics covered include computer console preparation/initialization, medium-range missile system initialization, battle doctrine, weapons engagement coordination operations/responsibilities, fire control console operations/responsibilities, and stand-alone operations/responsibilities.

Credit Recommendation: In the vocational certificate category, 2 semester hours in control system operations (5/96).

NV-1402-0242

Navy Tactical Command System Afloat Operator

Course Number: J-221-2311.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Fleet Combat Training Center, Pacific, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate equipment in support of information retrieval and evaluation processes; perform basic data base management functions; describe data base system communication, organization, and exchange functions; explain data system operations and limitations; describe basic data base network functions; explain data uncertainty; and describe graphical user interface menu systems and operate them at the basic level.

Instruction: Lecture, laboratory, demonstration, and simulation are used in a group-paced environment. Topics include data base fundamentals, network fundamentals, information retrieval, system modes, information uncertainty and filtering, and drop-down and graphical user interface menu systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory data base/networking operations and terminology (5/96).

NV-1402-0243

1. Joint Maritime Command Information System
2. Naval Tactical Command System Afloat Maintenance

Course Number: *Version 1:* J-150-2305. *Version 2:* J-150-2305.

Location: *Version 1:* Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Advanced Electronics School, San Diego, CA. *Version 2:* Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Fleet Combat Training Center, Pacific, San Diego, CA.

Length: *Version 1:* 6 weeks (240 hours). *Version 2:* 3 weeks (120 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 6/93–12/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and maintain data handling equipment associated with telecommunication information center installations and microcomputer equipment at computer command information system sites, using specialized test equipment. *Version 2:* Upon completion of the course, the student will be able to operate and maintain data handling equipment associated with telecommunication information center installations and microcomputer equipment at computer command information system sites, using specialized test equipment.

Instruction: *Version 1:* Group-paced lecture and laboratories cover various microcomputer hardware and peripherals. Topics include computer communication processor boards, data signal processing, local area networks, terminal maintenance, printer maintenance, fiber optic cable repair, and microcomputer systems. *Version 2:* Group-paced lecture and laboratories cover microcomputer hardware. Topics include computer communication processor boards, data signal processing, local area networks, and microcomputer systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 5 semester hours in computer system maintenance (5/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (5/96).

NV-1402-0244

Mk 160 Mod 4 Gun Computer System and Mk 46 Mod 0 Maintenance

Course Number: A-113-0131.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 11 weeks (440 hours).

Exhibit Dates: 4/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, diagnose, and repair a computerized gun control system to the electronic component level.

Instruction: Lectures, laboratories, and practical exercises are the methods used. Topics include computer system operation, maintenance, and repair. The course requires a student to use electronic theory to troubleshoot to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in troubleshooting computer systems and 4 in electronic servicing (5/96).

NV-1402-0245

Command and Control System Ashore Manager

Course Number: J-221-2305.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 7 weeks (280 hours).

Exhibit Dates: 5/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and manage the command and control system ashore operations support system. This is a pipeline course consisting of J-221-2306 and J-221-2307. See individual exhibits.

Instruction: This is a pipeline course; see individual exhibits for information.

Credit Recommendation: Credit is not recommended for this course; see exhibits above cited that comprise this course (5/96).

NV-1402-0246

Command and Control System Ashore Maintenance Technician

Course Number: J-221-2308.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 11-14 weeks (440-560 hours).

Exhibit Dates: 6/93–Present.

Learning Outcomes: Upon completion of the course, the student will operate and manage the command and control system ashore, and perform organizational and system level maintenance on the command and control systems ashore computer and peripheral equipment. This is a pipeline course consisting of J-221-0389 and J-150-2305. See individual exhibits.

Instruction: This is a pipeline course; see individual exhibits for information.

Credit Recommendation: Credit is not recommended for this course; see exhibits above cited that comprise this course (5/96).

NV-1402-0247

Submarine SNAP 2 Combined Maintenance (Submarine Shipboard Non Tactical Automated Data, Processing Program 2 Combined Maintenance)

Course Number: A-102-0289.

Location: Submarine Training School, Pacific, San Diego, CA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (89 hours).

Exhibit Dates: 2/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, adjust, and maintain digital computers and their associated peripherals and apply the elementary theory of digital computer operations.

Instruction: Lecture and laboratory instruction include the analysis, maintenance, and troubleshooting of the AN/UYK-62 computer system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer literacy (theory) and 1 in computer literacy laboratory (4/97).

NV-1402-0249

Navy Integrated Cryptologic Communications Systems

Course Number: A-260-0076.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 2/98–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the network troubleshooting techniques, including symptom recognition, symptom verification, determination of a course of action, and implementation of corrective action; describe network management techniques; understand the four steps to planning a new network or upgrading a network; explain routing tables as they relate to routers; and identify network devices.

Instruction: Group-paced lecture and laboratory exercises cover the network monitoring system; Fluke 675 Lanmeter, network management system, FIREBERD 6000, protocol analyzer, and time domain reflectometer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization (network management and security) (2/98).

NV-1402-0250

Wideband Acquisition and Analysis Maintenance

Course Number: A-102-0323.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 27 weeks (1081 hours).

Exhibit Dates: 4/94–1/98.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the wideband acquisition system to the component level and perform preventive and corrective maintenance on DEC PDP-11 systems down to the lowest replaceable unit.

Instruction: This course includes lectures, group-paced activities, and laboratory exercises on the PDP-11 series instruction set, number systems, and diagnostic programs; core memory and parity, bootstrap terminator and various registers found in the PDP-11; CPU, real-time clock, and interface cards; and PDP-11 system operations and troubleshooting. The course also covers wideband acquisition and analysis, hardware, software operations, signal digitizers and processors, logic circuits, communications protocol, troubleshooting and maintenance to the component level, and communications controllers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (2/98); in the upper-division baccalaureate category, 4 semester hours in data communications (2/98).

NV-1402-0251

Network Security and Vulnerabilities Technician

Course Number: A-531-0022.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7-8 weeks (303 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will have the knowledge to secure a network against intruders and unauthorized users. Students will have an in-depth knowledge of the security aspects of various operating systems (UNIX, Windows NT, Netware) commercial, freeware, and government-owned security tools and firewalls.

Instruction: Group-paced lectures and laboratory that include netware protocols and standards, including TCP/IP, IPX, Appletalk; Novell Netware management; Netware installation and configuration; risk management, security models, security tools; identification, authentication, and access controls; malicious code; encryption; PC and UNIX vulnerabilities; UNIX tools; Windows 3.1 and 95 and UNIX operating systems; Sun UNIX/Solaris systems, and firewall basics.

Credit Recommendation: In the upper-division baccalaureate category, 6 semester hours in computer systems and organization (network management and security) (2/98).

NV-1402-0252

Information Systems Administration

Course Number: A-531-0046.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will have the knowledge to manage a networked system with a focus on fault management, security, accounting, system management, performance management, configuration management, and communication.

Instruction: This course consists of group-paced lectures that include system administration responsibilities; computer hardware; network systems; network management for Windows 3.X, Windows 95, Windows NT, UNIX, and Novell Netware V3.X and V4.X; router configuration; introduction to data base management; TCP/IP addressing; and system security.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in computer systems and organization (computer information systems networking) (2/98).

NV-1403-0002

Direct Support

Course Number: A-231-0064.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (266-267 hours).

Exhibit Dates: 1/90–12/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate, under supervision, equipment in the local monitoring station under both normal and degraded conditions and copy Morse code.

Instruction: Classroom lectures, demonstrations, and hands-on laboratories cover background knowledge related to cryptographic operations in the Navy. The operation and function of various types of communication equipment in the local monitoring station are studied and the student gains hands-on experience. The student also acquires proficiency in Morse code at 20 GPM at 95 percent accuracy.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1404-0008

Radioman, Class A, Shore Duty

Course Number: A-202-0027.

Location: Service School Command, San Diego, CA.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in shore radio operating practices.

Instruction: Lectures and operating exercises cover shore radio communications, including communications organization, message preparation, use of tape cutters, use of teletypes and video terminals, and communications practice.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in typing (5/82).

NV-1404-0009

Radioman, Class A, Sea Duty

Course Number: A-202-0026.

Location: Service School Command, San Diego, CA.

Length: 3 weeks (112 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train personnel in shipboard radio operating practice.

Instruction: Student receives operating practice in shipboard radio communications, including communications equipment orientation, patch panels, operations, and communications practice.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in communications equipment operations laboratory (5/82).

NV-1404-0010

Dynalec 200/700 Line Automatic Telephone Maintenance

Course Number: A-623-0100.

Location: Service School Command, Great Lakes, IL.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train personnel in the theory of operation, repair, and troubleshooting of an electronic automatic dial telephone system.

Instruction: Lectures and practical exercises cover the theory and operation of an electronic automatic line telephone system, including system operating procedures, calls and the switching matrix, dial tone, call completion, manual switchboard, cut-in, restricted line, ring generators, alarms, and related power supplies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic telephone systems and 1 in electronic system troubleshooting (10/83).

NV-1404-0011

Submarine Digital Teletype Combined Maintenance

Course Number: A-101-0251.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT.

Length: 4 weeks (162 hours).

Exhibit Dates: 1/90–3/92.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functions of components of radio teletype transceivers and operate, troubleshoot, and repair them.

Instruction: Lectures and practical exercises cover the teletype equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in radio teletype operation and maintenance (10/89).

NV-1404-0012

Advanced International Morse Code Operator

Course Number: F-201-0210.

Location: Trident Training Facility, Kings Bay, GA; Fleet Mine Warfare Training Center, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–12/93.

Learning Outcomes: Upon completion of the course, the student will be able to transmit and receive international Morse code.

Instruction: Lectures and practical exercises are designed for student proficiency in Morse code.

Credit Recommendation: In the vocational certificate category, 3 semester hours in Morse code (10/89).

NV-1404-0013

Tactical Communications for Naval Embarked Advisory Teams

Course Number: K-201-0028.

Location: Reserve locations, US; Amphibious School, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 7/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the mission of the advisory team and describe mobilization procedures.

Instruction: Classroom and laboratory sessions use visual aids and tests to cover communications security procedures, naval control of shipping operations, operational control of merchant vessels, radio telephone procedures, rules of the road, and maneuvering board.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/92).

NV-1404-0014

Cryptologic Combat Support Console/
Cryptologic Combat Support Operations Division Officer

Course Number: A-3B-0019.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (196 hours).

Exhibit Dates: 1/90–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to effectively coordinate and manage cryptologic operations using fleet cryptologic assets.

Instruction: Classroom lecture and laboratory cover cryptologic management, fleet operations, communications resources, threats, cryptologic operations, and naval warfare with emphasis on the use of the CCSC/CCSO systems and subsystems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1404-0015

Outboard Division Officer

Course Number: A-3B-0023.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (196 hours).

Exhibit Dates: 1/90–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to effectively manage Outboard resources in an operational environment.

Instruction: Classroom lectures and laboratories covering cryptologic management, fleet operation, communications resources, threats, cryptologic operations, and naval warfare with detailed emphasis on the function, operation, and management of the Outboard system and its subsystems. Course consists of A-3B-0015 and A-3B-0020.

Credit Recommendation: Credit is not recommended because of military-specific nature of the course (1/93).

NV-1405-0001

Ship's Serviceman, Class A
(Ship's Servicemen Recordskeeper)

Course Number: A-823-0011; A-823-0010; A-823-0012.

Location: Naval School, Norfolk, VA; Naval School, San Diego, CA; Technical Training Center, Meridian, MS.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: After 5/92 see NV-1405-0028. To train enlisted personnel to perform as ship's store recordskeepers.

Instruction: Lectures cover procurement and receipt of ship's store stock, inventory control, and records and returns. Emphasis is on retailing skills for ship's store operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in introduction to retailing (6/84).

NV-1405-0004

Aviation Storekeeper, Class A

Course Number: C-551-2010.

Location: Air Technical Training Center, Jacksonville, FL; Air Technical Training Center, Memphis, Millington, TN; Technical Training Center, Meridian, MS.

Length: Self-paced, 7-11 weeks (255-480 hours).

Exhibit Dates: 1/90–6/91.

Objectives: After 6/91 see NV-1405-0027. To train enlisted personnel to perform as entry-level aviation storekeepers.

Instruction: Lectures and practical exercises in entry-level aviation store keeping, including operation of adding machines, calculators, and typewriters; finance and accounting procedures; materials handling and storage; correspondence; receipt and issue procedures; and item identification.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in typing and 2 in inventory supervision (6/84).

NV-1405-0007

Marine Aviation Supply (Mechanized), Class C

Course Number: C-551-2012.

Location: Technical Training Center, Meridian, MS.

Length: 10 weeks (380 hours).

Exhibit Dates: 1/90–4/91.

Objectives: After 4/91 see NV-1405-0030. To train enlisted personnel in the performance of aviation supply duties.

Instruction: Lectures and practical exercises cover the fundamentals of aviation supply support, including introduction to aviation supply, documents, equipment, management, Shipboard Uniform Automated Data Processing System (SUADPS), functions of group aviation supply support center (GASSC) under SUADPS, systems output, SUADPS operating procedures within GASSC, GASSC operation, electronic accounting machines, and communications equipment. Course includes instruction in computer-oriented aviation supply support.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer-oriented materials management (6/84).

NV-1405-0009

Joint Aviation Supply and Maintenance Material Management

Course Number: A-8B-0020.

Location: Supply Corps School, Athens, GA.

Length: 3 weeks (105 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To train commissioned officers in aviation material management.

Learning Outcomes: Upon completion of the course, the student will be able to define the most commonly used maintenance/material and supply terms, acronyms, or abbreviations relating to naval aviation; select from a list of those activities directly involved in aviation logistic support and match each with its specific functional maintenance and/or supply responsibility; describe the principles and procedures for maintenance and utilization of aviation stock control and procurement records, files, regulations, and directives in terms of their application to the supply activity; and describe the wholesale/retail concept as it applies to the management of system supply stock.

Credit Recommendation: In the upper-division baccalaureate category, 1 semester hour in inventory management (7/83).

NV-1405-0012

Supply Corps Officer Basic Qualification Aviation Management

Course Number: A-8B-0044.

Location: Supply Corps School, Athens, GA.

Length: 5 weeks (145 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To train officers in the management of aviation supplies.

Instruction: Lectures and discussion cover basic aviation supply maintenance and material management, including aviation storage procedures, aeronautical supply distribution systems, and the management of high priority requisitions.

Credit Recommendation: In the vocational certificate category, 3 semester hours in material management (7/83); in the lower-division baccalaureate/associate degree category, 1 semester hour in material management (7/83).

NV-1405-0017

Storekeeper Supply Afloat (Independent Duty), Class C

(Storekeepers (Independent Duty), Class C)

Course Number: A-551-0011; A-551-0010.

Location: School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To train selected enlisted personnel as storekeepers aboard ship.

Instruction: Course includes training in the use of technical and administrative publications, catalogs, and allowance lists; acquisition, control, and issue of stores; financial accounting; stores storage and security; requirements determination; stores management organization; pricing and profit policies; inventory procedures; and food service sales, controls, and records.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in supply management and 1 in food service records management (11/95).

NV-1405-0019

Supply Corps Officer Basic Qualification

Course Number: A-8B-0012.

Location: Supply Corps School, Athens, GA.

Length: 26-27 weeks (720-810 hours).

Exhibit Dates: 1/90–6/93.

Objectives: To qualify officers to assume duties normally associated with supply and disbursing in the Navy.

Learning Outcomes: Upon completion of the course the student will be able to describe the integrated supply system; follow materiel management procedures for requisitioning, receiving, and inventory management; determine pay entitlements for naval personnel; determine the cash requirements and follow proper accounting procedures for operating a disbursing office; follow the procedures for procurement, receipt, pricing, and sales of merchandise for a retail operation and know the procedures for proper accounting and cash control; perform quantitative analysis including constructing a random sample of sufficient size for the degree of accuracy desired and the computation and use of standard statistical measures; design the input and output segments of an information processing system for a given situation; audit the required documentation for operating food service activities; and identify the nature and causes of problems in leadership and personnel management, list alternative solutions, and justify the selected course of action.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in retail management, 2 in food service management, 2 in introduction to statistical methods, 1 in material management, and 1 in accounting (8/83); in the upper-division baccalaureate category, 3 semester hours in industrial management, industrial psychology, leadership development, or a management elective (8/83).

NV-1405-0020

Aviation Storekeeper Advanced Training, Class C

Course Number: C-551-2016.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/90–12/90.

Objectives: After 12/90 see NV-1405-0033. To provide aviation storekeepers with advanced training as related to the management of repairable items.

Learning Outcomes: Upon completion of the course, the student will be able to prepare material requisitions, daily status reports, budget reports, logs, and transmittal reports; maintain control records and status reports; validate visual information control boards against status reports; perform inventory and tool control actions and accounting and budgeting activities; manage all repairable items given required documentation; and demonstrate knowledge of both special and standard supply procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in material and/or property control record keeping (12/89).

NV-1405-0022

Integrated Shipboard Maintenance Support

Course Number: J-500-0041.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 1/90–10/94.

Learning Outcomes: Upon completion of the course, the student will be able to describe an inventory control and maintenance system, including referencing inventory control lists and microfiche; requisitioning parts; inventorying all parts for receipt, disbursement, and correction; and adjusting the system for errors or modifications.

Instruction: Classroom instruction is through lectures and projects, including completing appropriate inventory receipt, disbursement, and adjustment forms; calculating inventory allowance amounts based on usage; and accessing information from various parts manuals and microfiche.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (12/89).

NV-1405-0023

Ship's Store Afloat Resale Operation Management System User

Course Number: A-823-0017.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of the Ship's Store Afloat Resale Operation Management system and be able to operate the system.

Instruction: Methods of instruction include lectures and laboratory exercises in which the computer is set up and inputs prepared and entered. Topics include computer operation and handling of items, payments, and records in the system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in supply procedures (12/89).

NV-1405-0024

Construction Mechanic Repair Parts Storeman

Course Number: A-610-0012.

Location: Construction Training Center, Port Hueneme, CA.

Length: 4 weeks (157 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a repair parts storeroom for maintenance, current use, and restocking of parts.

Instruction: Lectures and practical exercises cover catalog utilization, parts identification, records management, and stores operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in supply/stores management (6/91).

NV-1405-0025

Submarine Leading Storekeeper

Course Number: A-551-0089.

Location: Submarine Training Center, Pearl Harbor, HI; Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Norfolk, VA; Submarine Training Facility, Charleston, SC; Submarine Training Facility, San Diego, CA; Submarine Base, New London, Groton, CT.

Length: 1-2 weeks (52 hours).

Exhibit Dates: 1/90–2/98.

Learning Outcomes: Upon completion of the course, the student will be able to control purchasing and material in a commercial or industrial setting.

Instruction: Oral discussion, multimedia, problem sheets, and policy review are used to develop aspects of purchasing responsibilities, including supply system organization, material control, use and maintenance, and financial management.

Credit Recommendation: In the vocational certificate category, 2 semester hours in purchasing (3/92).

NV-1405-0026

Marine Aviation Supply Senior Enlisted

Course Number: C-551-2014.

Location: Technical Training Center, Meridian, MS.

Length: 6-7 weeks (256 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to manage Marine aviation supply systems in a computer environment.

Instruction: Course includes a review of the Navy supply system, data processing upgrade and scheduling, material records management, inventory control systems, basic accounting concepts, and financial reporting. Methods include lectures, discussions, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester in hour in fundamentals of accounting and 3 in computer applications (11/92); in the upper-division baccalaureate category, 3 semester hours in management science (11/92).

NV-1405-0027

Aviation Storekeeper, Class A

Course Number: C-551-2010.

Location: Technical Training Center, Meridian, MS.

Length: 8 weeks (335 hours).

Exhibit Dates: 7/91–Present.

Learning Outcomes: Before 7/91 see NV-1405-0004. Upon completion of the course, the student will be able to perform administration, material control, and ashore/afloat supply operations.

Instruction: Course includes aviation store keeping; operation of adding machines, calculators, and typewriters; finance and accounting procedures; materials handling and storage; correspondence; receipt and issue procedures; and item identification. Methodology includes lectures, discussions, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in typing, 2 in clerical procedures, and 2 in supply management (11/92).

NV-1405-0028

Ship's Serviceman, Class A

Course Number: A-823-0012.

Location: Technical Training Center, Meridian, MS.

Length: 4 weeks (160 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Before 6/92 see NV-1405-0001. Upon completion of the course, the student will be able to perform merchandising, bookkeeping, and inventory control.

Instruction: Course covers basic retailing skills, inventory control, merchandising, laundry operations, and ship's store operations. The methods of instruction are lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in introduction to business (11/92).

NV-1405-0029

Storekeeper, Class A

Course Number: A-551-0014.

Location: Technical Training Center, Meridian, MS.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to determine customer needs; prepare documents for requisitioning standard and nonstandard materials; follow up on outstanding requisitions; prepare and process purchase, inventory, and accounting documents; and use proper format in preparing records and correspondence.

Instruction: Course covers customer relations, stock records and file systems, receipt and issue of materials, transfer shipping of materials, correspondence, customer service, and inventory control. Methods include lectures, discussions, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in clerical procedures, 1 in interpersonal communication, and 3 in supply management (11/92).

NV-1405-0030

Marine Aviation Supply Mechanized, Class C1

Course Number: C-551-2012.

Location: Technical Training Center, Meridian, MS.

Length: 11 weeks (416 hours).

Exhibit Dates: 5/91–Present.

Learning Outcomes: Before 5/91 see NV-1405-0007. Upon completion of the course, the student will be able to perform aviation supply tasks in a computer environment.

Instruction: Course includes typing, aviation fundamentals, supply personnel, squadron organization, correspondence, material management, introduction to data processing and software, repair part and component control, and supply accounting. Methods include lectures, discussions, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in supply management, 2 in records and information management, and 1 in introduction to computers (11/92).

NV-1405-0031

Cryptologic Outboard Division Officer

Course Number: A-3B-0015.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (66 hours).

Exhibit Dates: 1/90–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to describe the Outboard system and its subsystem characteristics, capabilities, and limitations and manage these the system in an operational environment.

Instruction: Lecture and laboratory assignments cover subjects such as security, functions, displays, interfaces, degraded operation, antenna, filters, data processing, frequencies of the Outboard subsystems, and its operation and management. The subsystems consist of OK-324/5YQ(V), communications control group/system supervisor station; AN/SRD-19A direction finder set; AN/SLR-16A countermeasures receiving set; local monitoring station; AN/SLR-23 Harvester, Outboard communications; and antenna subsystems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1405-0032

Cryptologic Technician Administrative Advanced

Course Number: A-510-0025.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (170-205 hours).

Exhibit Dates: 5/90–8/93.

Objectives: Upon completion of the course, the student will be able to perform advanced administrative procedures to support the mission of the naval security group.

Instruction: Group-paced lecture and laboratory experiences cover writing techniques, automated data processing, security and administrative management, preparation of manpower requirements and documentation, special security office functions, and administrative office management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in industrial supervision and management (1/93).

NV-1405-0033

Advanced Aviation Storekeeper

Course Number: C-551-2016.

Location: Fleet Training Center, Norfolk, VA.

Length: 4-5 weeks (184 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Before 1/91 see NV-1405-0020. Upon completion of the course, the student will be able to perform aviation management duties for repairable items and perform inventory tasks. Students will prepare material requisitions, daily status reports, budget reports, logs, and transmittal reports; maintain control records and status reports; validate visual information control boards against status reports; perform inventory and accounting activities; and manage all repairable items.

Instruction: The method of instruction is group-paced using both lecture and laboratory. Course topics include aviation material identification and control, naval aviation logistics command management information system (NALCOMIS) material requirements, and aviation repairables management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in material and/or property control record keeping (11/95).

NV-1405-0034

Marine Air Traffic Control and Landing Systems Maintenance Management, Class M3

Course Number: C-103-2111.

Location: Air Technical Training Center, Pensacola, FL.

Length: 4 weeks (144 hours).

Exhibit Dates: 5/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a supervisor for Marine air traffic control and landing systems equipment maintenance operations and embarkation procedures during field operations.

Instruction: This course covers general administration, field maintenance operations, and personnel management for air traffic control for expeditionary airfields. Methodology includes classroom lectures, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in supervision (8/96).

NV-1405-0035

Aviation Maintenance Program Management, Class A2

Course Number: Q-4D-2011.

Location: Air Station, Pensacola, FL.

Length: 4 weeks (147 hours).

Exhibit Dates: 8/96–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate competence in supply and maintenance management, maintenance data systems, and aircraft weight and balance.

Instruction: This course uses lecture, laboratory, and demonstration formats, and both written and proficiency examinations.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in logistics management (8/97).

NV-1405-0036

Aviation Maintenance Program Indoctrination, Class A2

Course Number: Q-4D-2010.

Location: Air Station, Pensacola, FL.

Length: 10 weeks (374 hours).

Exhibit Dates: 8/92–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate competence and knowledge of aviation materials, production management, and procedures in maintenance organizations by developing work orders control systems, maintenance logs, and equipment operational procedures, and plan and implement procedures for shop planning, material requirements, and control.

Instruction: This course uses lectures, demonstrations, practical exercises, and written test formats for the curriculum.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in materials management and 3 in production management (8/97).

NV-1405-0037

Reserve Mobilization

Course Number: K-8A-3550.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 2 weeks (64-65 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to plan, supervise, and coordinate cargo transfer.

Instruction: Classroom instruction, including lectures, demonstrations, and practical exercises and three days of computer laboratory are course methods.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer applications and 1 in material management (10/97).

NV-1406-0009

Officer Instructor Indoctrination

Course Number: F-00-0014.

Location: Submarine School, New London, Groton, CT.

Length: 2 weeks (86 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train selected officers as instructors for naval training.

Instruction: Lectures and practical demonstrations cover instructional methods. The course provides an overview of learning objectives, methods of teaching, use of media, and techniques for evaluation.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in methods of instruction (3/82).

NV-1406-0013

Shipboard Instructor

Course Number: A-012-0023.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine School, New London, Groton, CT; Fleet Training Center, Norfolk, VA; Fleet Training Center, Charleston, SC; Fleet Training Center, Pearl Harbor, HI.

Length: 2 weeks (65 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train fleet personnel in instructional methods and use of materials for naval training.

Instruction: Lectures and practical exercises cover instructional techniques, including use of instructional media materials, use of learning objectives, and evaluation of student performance.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in methods and materials of instruction (3/82).

NV-1406-0016

Navy Recruiting Orientation
(Recruiter Canvasser)

Course Number: None.

Location: Recruiting Orientation Unit, Orlando, FL.

Length: 5 weeks (180 hours).

Exhibit Dates: 1/90–3/93.

Objectives: To prepare the student to enter the sales field with a thorough knowledge of the fundamentals of selling.

Instruction: Lectures, discussion, and role playing activities cover the fundamentals of selling, including the standard procedures of community research, prospect qualifying, product and/or service information, and closing a sale. Visuals and audiovisuals are used extensively in presentation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in salesmanship (3/83).

NV-1406-0019

Instructor

(Group-Paced Instructor)

Course Number: A-012-0011.
Location: Naval installations, worldwide.
Length: 3-4 weeks (128-140 hours).
Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to deliver lectures employing effective questioning, chalkboard, and communications techniques; deliver instruction employing demonstrative strategies; operate an overhead projector and video cassette system; demonstrate knowledge of instructor guides, workbooks, computerized reporting systems, evaluation, and participant materials; and develop learning outcomes for a topic.

Instruction: Participants practice constructing and delivering instruction. Lectures provide procedures and general information which is then applied in the laboratory sessions. Emphasis is placed on the instructional strategies of lecture/demonstration. An overview is provided for administrative processes, evaluation, and counseling.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in training and development (instructional methods) (1/98).

NV-1406-0020

Command Career Counselor

Course Number: A-501-0011.
Location: Fleet Training Center, San Diego, CA; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.
Length: 4 weeks (131-160 hours).
Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to counsel personnel on all facets of career planning, including assignments, advancement, retirement, and survivor benefits.

Instruction: Methods of instruction include lectures, laboratory exercises, and examinations. Topics covered include communication skills for the counselor, counseling methods and techniques, and the entire range of career issues, including pay, health benefits, advancement opportunities, reassignment, survivor benefits and annuities, and educational benefits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel counseling (6/94).

NV-1406-0021

Submarine Yeoman/Personnelman Advanced Administration

Course Number: A-510-0024.
Location: Submarine Base, New London, Groton, CT.
Length: 3 weeks (112 hours).
Exhibit Dates: 7/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to assist in the management of an administrative and personnel office at the entry level.

Instruction: Discussion-demonstration activities, oral discussion, instruction sheets, and other applied techniques are used to cover personnel processing, office supervision, records maintenance, pay systems, and general personnel administration.

Credit Recommendation: In the vocational certificate category, 3 semester hours in personnel procedures (3/92).

NV-1406-0022

Training Materials Development System (TMDS) Curriculum Developer

Course Number: A-012-0051.
Location: Various locations, US.
Length: 2 weeks (80 hours).
Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to design, develop, and maintain task-based training programs and demonstrate knowledge of learning theories, instructional strategies, and curriculum development process by building a cross section of an actual course.

Instruction: The course covers the systems approach to instructional materials design. Included are lectures and hands-on exercises dealing with planning, analysis, design, development, implementation, and evaluation.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in instructional design and curriculum development (1/98).

NV-1406-0023

Personnelman, Class A

Course Number: A-500-0014.
Location: Technical Training Center, Meridian, MS.
Length: 7 weeks (300 hours).
Exhibit Dates: 9/92–Present.

Learning Outcomes: Before 9/92 see NV-1409-0001. Upon completion of the course, the student will be able to perform personnel record keeping, document preparation, and information processing at the entry level.

Instruction: Course covers keyboarding skills (25 wpm), computer literacy, word processing, personnel record keeping, and personnel procedures. Methods include lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding and 3 in personnel supervision (11/92).

NV-1406-0024

Religious Program Specialist, Class A

Course Number: A-561-0002.
Location: Technical Training Center, Meridian, MS.
Length: 7 weeks (256 hours).
Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a microcomputer; use software packages; format religious documents; prepare Roman Catholic, Protestant, and Jewish altars; maintain shipboard libraries; prepare accounting for the religious offering fund; and type 25 wpm.

Instruction: Course covers typing, microcomputer operations; use of software packages; office correspondence; interpersonal communication; liturgical equipment; religious records, reports, and clerical duties; shipboard library administration; and accounting. Methods include lectures, discussions, laboratories, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in computer applications, and 1 in introduction to computers (11/92).

NV-1406-0025

Religious Program Specialist (Advanced), Class C

Course Number: A-561-0003.
Location: Technical Training Center, Meridian, MS.
Length: 6 weeks (240 hours).
Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to design software applications using ENABLE; assist in command religious ministry support, including logistic, financial, and administrative analysis and management and planning systems; and coordinate and evaluate religious education programs and instruction.

Instruction: Course covers advanced microcomputer programs using ENABLE and MS-DOS commands to design computer applications in word processing, spreadsheets, graphics, and data base management systems; religious ministry support, including planning systems, logistic, financial, and administrative analysis and management; and coordination and evaluation of religious education programs and instructional training methods.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in advanced computer applications, 2 in training methods, and 2 for field experience in management (11/92).

NV-1406-0026

Religious Program Specialist, Class C (Religious Education)

Course Number: A-561-0005.
Location: Technical Training Center, Meridian, MS.
Length: 2 weeks (80 hours).
Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use instructional aids; develop instructional media material; prepare learning objectives; prepare instructor guides for training sessions; and instruct trainees using audiovisuals, role-playing, case studies, and questioning techniques.

Instruction: Course covers correspondence and religious education media programs. Methods include lectures, discussions, practical exercises, role playing, and case studies.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in training methods (11/92).

NV-1406-0027

Aircrewman Candidate Instructor

Course Number: Q-050-1502.
Location: Air Station, Pensacola, FL.
Length: 15 weeks (231 hours).
Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to teach aircrewman candidates survival skills, maintenance of personal aircraft equipment, and lifesaving skills.

Instruction: This course uses lectures, demonstrations, practices and evaluation in aircraft equipment, personal fitness, wellness, and survival techniques. Student instructors must successfully design and complete survival exercises.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in instructional methodology (8/97).

NV-1406-0028

Aviation Ordnance Officer Career Progression Level 1

Course Number: Q-4E-0010.

Location: Air Station, Pensacola, FL.

Length: 6 weeks (199 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate knowledge of aviation ordnance weapons systems and specifications and the supporting logistics systems. The student will be able to manage handling and storage and evaluate readiness. The student will establish work schedules, modification requests, and maintenance logs on equipment.

Instruction: This course uses lectures and practical demonstrations for handling and servicing ordnance systems.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in material management (8/97).

NV-1406-0029

Aviation Ordnance Officer Career Progression Level 2

Course Number: Q-4E-0011.

Location: Air Station, Pensacola, FL.

Length: 2 weeks (76-80 hours).

Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate knowledge of the management of naval aviation ordnance organizations including safety procedures and investigations. Students will be able to plan, direct, control, and evaluate systems and manage change within an organization.

Instruction: This course uses lecture format for weapons requirements and management of weapons departments including safety and investigations.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in organizational management. This does not duplicate Q-4E-0012 (8/97).

NV-1406-0030

Aviation Ordnance Officer Career Progression Level 3

Course Number: Q-4E-0012.

Location: Air Station, Pensacola, FL.

Length: 2 weeks (69 hours).

Exhibit Dates: 4/95–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate progressive knowledge of management of aviation ordnance systems at major command levels, including acquisition and supply policies. Student will be able to set policy by managing staff organizations through planning, directing, coordinating, and controlling; motivate and direct subordinates; and structure section of responsibility and work relationships.

Instruction: This course uses lecture format and covers aviation ordnance systems management.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in organizational management. This course does not duplicate credit in Q-4E-0011 (8/97).

NV-1406-0031

Senior Aviation Maintenance Officer, Class C2

Course Number: Q-4D-2012.

Location: Air Station, Pensacola, FL.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply Navy aviation maintenance and supply policies, develop and direct aviation maintenance and supply organizations, and manage systems.

Instruction: Seminar format teaches job-related technical, logistical, and systems management.

Credit Recommendation: In the upper-division baccalaureate category, 1 semester hour in logistics management and 1 in production management (8/97).

NV-1406-0032

Academic Instructor, Class C2

Course Number: Q-5K-0101.

Location: Air Station, Pensacola, FL.

Length: 2-3 weeks (99-100 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to conduct group-paced instruction using both verbal and nonverbal communication including the interaction of both, develop and revise curriculum and write terminal and enabling objectives, construct and evaluate methods used in measuring student performance, apply psychological factors involved in learning to specific teaching situations.

Instruction: Lecture and laboratory methods are used to present the material. Student performance is evaluated through serial and cumulative proficiency examinations.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in methods and development of instruction (8/97).

NV-1406-0033

Reserve Swimmer Instructor Training, Class P

Course Number: Q-050-0601.

Location: Air Station, Pensacola, FL.

Length: 3 weeks (123-124 hours).

Exhibit Dates: 5/92–Present.

Learning Outcomes: Upon completion of the course, the student will qualify search and rescue swimmers in water entry, first aid, CPR, parachute disentanglement, and waterborne lifesaving procedures under various environmental conditions.

Instruction: Lecture, laboratory, and demonstration including pool and open water practical experiences are course methods. Both written and performance tests are used to demonstrate proficiency.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic swimming, rescue techniques, first aid, and lifesaving (8/97); in the upper-division baccalaureate category, 3 semester hours in teaching procedures in open water lifesaving and rescue (8/97).

NV-1406-0034

Physical Training Instructor Class F2

Course Number: P-9E-1238.

Location: Air Station, Pensacola, FL.

Length: 6 weeks (128 hours).

Exhibit Dates: 5/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to instruct, coach, and perform all the physical fitness events required for preflight training, including warm-ups, physical readiness tests, cross-country and obstacle course evaluations, boxing, and nautilus equipment.

Instruction: Lectures, laboratories (including equipment use), outdoor activities, and proficiency examinations are methods used. Topics also include nutrition and heat stress.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in teaching general physical training (8/97).

NV-1407-0004

Yeoman Flagwriter, Class C

Course Number: A-511-0015.

Location: Technical Training Center, Meridian, MS.

Length: 15 weeks (596 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Before 2/91 see NV-1408-0028. Upon completion of the course, the student will be able to take and transcribe shorthand at 90 wpm and work independently in an office setting.

Instruction: Course includes shorthand principles, transcription, office communication, English grammar, composition, and naval protocol.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in shorthand and 2 in business English (11/92).

NV-1408-0001

Disbursing Clerk Financial Returns

(Disbursing Clerk Financial Returns, Class C)

(Disbursing Clerk, Class C (Financial Returns))

Course Number: A-542-0014.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (60-80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train rated and nonrated disbursing clerks to prepare Navy and DoD reports and financial returns.

Instruction: Lectures and practical exercises cover the preparation of collection and disbursement vouchers, reports of disbursement and collections, foreign currency reports, and deposit schedules.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (12/89).

NV-1408-0002

Disbursing Clerk Travel Payments

(Disbursing Clerk, Class C (Travel Payments))

Course Number: A-542-0013.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 2 weeks (60-80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train disbursing clerks to master the intricacies of the Navy travel payment procedures.

Instruction: Lectures cover travel regulations, orders, and vouchers; travel advance and allowance; dependent travel entitlement; and dislocation allowance.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (12/89).

NV-1408-0010

COMMISSARY STORE MANAGEMENT

Course Number: A-8B-0029.

Location: Supply Corps School, Athens, GA.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To train officers in the management of a commissary.

Learning Outcomes: Upon completion of the course, the student will be able to determine the inventory and stock levels to be maintained; establish a display that will successfully promote a given product; describe the financial records to be maintained by a retail store and complete these records; complete the necessary forms for ordering, receiving, and warehousing goods to be sold in order that a sufficient stock level be maintained; and describe sanitation regulations and safety rules essential in the operation of a retail food store.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in retail management (7/83).

NV-1408-0023

NAVY EXCHANGE MANAGEMENT

Course Number: A-8B-0028.

Location: Ship's Store Office, Brooklyn, NY; Supply School, Athens, GA.

Length: 5-6 weeks (100-154 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To train officers in the management of Navy exchanges.

Learning Outcomes: Upon completion of the course, the student will be able to describe the management responsibilities of a retail store manager including duties related to personnel; list procedural steps for ordering, receiving, and warehousing merchandise for a retail operation; establish a display that will promote a given product; describe financial and accounting responsibilities essential for the operation of a retail business; and give examples of various daily records which are kept.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in retail management (7/83).

NV-1408-0024

MARINE CORPS AVIATION SUPPLY OFFICER QUALIFICATION

Course Number: A-8B-0031.

Location: Supply Corps School, Athens, GA.

Length: 15 weeks (505 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To provide the officer with the skills required to be a supply officer within the Marine aircraft group.

Learning Outcomes: Upon completion of the course, the student will be able to determine the stores account, type of material, and inventory manager of any item when provided with the cognizance symbol; apply problem analysis theory to a given problem; identify appropriate statistical measures and perform the related calculations necessary to problem analysis; use a program flowchart to process test data through a system; define the most commonly used aviation maintenance/supply terms, acronyms, and abbreviations relating to naval aviation; select from a list all required local support procedures for repairables, including communication of requirements, timely issue of material, control of repairable components, preparation and flow of documentation, and reconciliation of records and requirements; and identify the uses of automated data processing system for supply management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in materials management and 2 in introduction to statistical methods (7/83).

NV-1408-0025

UNIFORM AUTOMATED DATA PROCESSING (ADP) SYSTEM STOCK POINTS

Course Number: A-8B-0027.

Location: Various locations, worldwide; Supply Corps School, Athens, GA.

Length: 3 weeks (85 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To provide the student with a knowledge of the supply and financial environment within which a stock point manager operates.

Instruction: Topics include the overall supply and financial organization structure; the documentation and file maintenance for the automatic data processing system; the use of the system for inventory control; and related financial accounting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in supply management or elective credit (7/83).

NV-1408-0026

SUPPLY INDOCTRINATION FOR LINE OFFICERS

Course Number: A-8B-0045.

Location: Supply Corps School, Athens, GA.

Length: 5 weeks (150 hours).

Exhibit Dates: 1/90–7/93.

Objectives: To familiarize line officers with the broad areas of naval supply encountered at their respective commands.

Instruction: Topics include disbursing, material management, food service management afloat, and management of a retail ship's store.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in material management and 1 in food service management (7/83).

NV-1408-0027

NAVY EXCHANGE/COMMISSARY STORE MIDDLE MANAGEMENT, CLASS C

Course Number: A-823-0016.

Location: Technical Training Center, Meridian, MS.

Length: 4 weeks (145 hours).

Exhibit Dates: 1/90–12/94.

Objectives: To provide the student with the knowledge and skills to be able to manage a commissary store or Navy exchange.

Learning Outcomes: Upon completion of the course, the student will be able to perform administrative duties required in operating commissary stores including procurement and receiving/warehousing; manage floor sales and meat and produce departments, cash collections, and inventory systems; apply Navy regulations as required in the performance of the above duties; and plan and implement promotional merchandising techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in introduction to marketing and retailing operations (6/84).

NV-1408-0028

YEOMAN FLAGWRITER, CLASS C

Course Number: A-511-0015.

Location: Technical Training Center, Meridian, MS.

Length: 15 weeks (596 hours).

Exhibit Dates: 1/90–1/91.

Objectives: After 1/91 see NV-1407-0004. To provide intensive training in shorthand dictation to experienced yeomen.

Learning Outcomes: Upon completion of the course, the student will be able to take shorthand dictation at 80—100 words per minute; demonstrate a high level of English grammar usage; and demonstrate skill in social and naval protocol.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, for those students holding NEC 2514, 6 semester hours in shorthand; for those students holding NEC 2512, 3 semester hours in shorthand and for both groups of students, 2 semester hours in business English (6/84).

NV-1408-0029

1. LIMITED DUTY OFFICER/CHIEF WARRANT OFFICER INDOCTRINATION, CLASS PC
2. LIMITED DUTY OFFICER (LDO) AND CHIEF WARRANT OFFICER (CWO) INDOCTRINATION TRAINING

Course Number: *Version 1:* Q-9B-0023. *Version 2:* Q-9B-0023.

Location: Air Station, Pensacola, FL.

Length: *Version 1:* 4 weeks (140-142 hours). *Version 2:* 4 weeks (153 hours).

Exhibit Dates: *Version 1:* 4/93–11/97. *Version 2:* 1/90–3/93.

Learning Outcomes: *Version 1:* Upon completion of the course, newly commissioned limited duty officers and chief warrant officers will be trained in the administrative, leadership, military law, and customs skills necessary to be an effective naval officer, with an emphasis on communication. *Version 2:* Upon completion of the course, the student will be able to train newly commissioned limited duty officers and chief warrant officers in the communication, administrative, leadership, military law and customs skills necessary to be an effective naval officer.

Instruction: *Version 1:* Lectures and practical exercises cover written communication, oral communication, naval correspondence, naval administration, military law, military customs, naval history subjects, and role of the US Navy. *Version 2:* Lectures and practical exercises cover written communication, oral communication, naval correspondence, naval administration, military law, military customs, naval history subjects, and role of the US Navy.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in business communication (8/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in business/technical communication (3/86).

NV-1408-0030

AUTOMATED TELECOMMUNICATIONS SYSTEMS TECHNICIAN, CLASS C7

Course Number: *Version 1:* A-260-0045. *Version 2:* A-260-0045.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 12 weeks (400 hours). *Version 2:* 12 weeks (480 hours).

Exhibit Dates: *Version 1:* 6/90–12/97. *Version 2:* 1/90–5/90.

Learning Outcomes: *Version 1:* Upon successful completion of the course, the student will be able to operate/supervise an automatic central office telecommunications system. *Version 2:* Upon successful completion of the course, the student will be able to operate/supervise an automatic central office telecommunications system.

Instruction: *Version 1:* Group-paced lectures and laboratory exercises cover an introduction to computer systems, peripherals and interfacing, central processing unit, software files, data processing security, and administrative management. *Version 2:* Group-paced lectures, practical demonstrations, and laboratory work. Subjects covered include introduction to computer systems, peripherals, and interfacing; message handling, routing, origination, correcting, retrieval, tracing, and journaling; software files, halts, aborts, and contingency procedures; and administrative details.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in telecommunication systems office management (7/87). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in telecommunication systems office management (2/93).

NV-1408-0031

SHIP'S STORE AFLOAT RESALE OPERATION MANAGEMENT (ROM) SYSTEM SUPERVISOR

Course Number: A-823-0015.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functions associated with a retail operation, including stock control, ordering, receiving, return to stock, return to vendor and assume responsibility for other auxiliary retail enterprises such as barber shop and laundry.

Instruction: Classroom lectures, laboratory exercises, and examinations develop an understanding of the retail process, including operation of computer equipment for inventory control and cash register equipment, space planning, security, customer service, cash control, staffing, and preparation of balance sheet and profit and loss statements.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in retail operations and management (12/89).

NV-1408-0032

CHAPLAIN SCHOOL ADVANCED

Course Number: P-00-4300.

Location: Naval Chaplain School, Newport, RI.

Length: 39 weeks (975 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of course, the experienced, mid-career chaplain will be prepared to assume staff and supervisory functions in the Chaplain Corps. Specific competencies will be understanding the management of large, complex organizations; communicating effectively; learning the principles of effective personnel management; developing leadership skills; and developing skills in strategic planning and program management.

Instruction: Lecture, discussions, case studies, simulations, directed reading, independent research, and multimedia student presentations in the supervisory and managerial responsibilities of chaplains in the sea services. Curriculum includes studies in communications, ethics, ministry/pastoral cases, organizational psychology, management, planning and administration, and religion and society.

Credit Recommendation: In the graduate degree category, 3 semester hours in communication, 3 in ethics, 3 in ministry/pastoral care, 3 in organizational psychology, 3 in management, 3 in planning and administration, and 3 in religion and society (3/89).

NV-1408-0034

1. CONSTRUCTION PLANNING AND ESTIMATING SPECIALIST
2. CONSTRUCTION PLANNER AND ESTIMATOR

Course Number: *Version 1:* A-412-0012. *Version 2:* A-412-0012.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: *Version 1:* 10 weeks (400 hours). *Version 2:* 10 weeks (394 hours).

Exhibit Dates: *Version 1:* 5/97–Present. *Version 2:* 1/90–4/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to plan, estimate, schedule, and report on construction projects; perform essential mathematics; read blueprints and understand specifications; estimate materials in site work, concrete, masonry, metal, carpentry, moisture protection, doors, windows, hardware, finishes, and basic mechanical and electrical components; procure materials; determine time and labor requirements; establish project schedules; understand network analysis; and use computer programs to develop estimates and schedules. *Version 2:* Upon completion of the course, the student will be able to plan, estimate, schedule, and report on construction projects; perform essential mathematics; read blueprints and understand specifications; estimate materials in site work, concrete, masonry, metal, carpentry, moisture protection, doors, windows, hardware, finishes, and basic mechanical and electrical components; procure materials; determine time and labor requirements; establish project schedules; and understand network analysis.

Instruction: *Version 1:* Lectures and practical exercises with extensive laboratory exercises cover the above areas of instruction. *Version 2:* Lectures and practical exercises with extensive laboratory exercises cover the above areas of instruction.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in construction estimating and 1 in project planning/scheduling (4/97); in the upper-division baccalaureate category, 1 semester hour in computer assisted estimating and scheduling (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in construction estimating and 1 in project planning/scheduling (7/96); in the upper-division baccalaureate category, 1 semester hour in estimating and project planning/scheduling (7/96).

NV-1408-0035

CONSTRUCTION INSPECTOR

Course Number: *Version 1:* A-710-0022. *Version 2:* A-710-0022.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: *Version 1:* 8 weeks (320 hours). *Version 2:* 8 weeks (321 hours).

Exhibit Dates: *Version 1:* 8/93–Present. *Version 2:* 1/90–7/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to review and analyze project construction drawings and specifications; prepare a construction inspection plan including a check list of quality assurance inspection points for critical phases of construction and installation; verify that all materials/equipment ordered meet specifications; inspect all phases of construction, including civil, architectural and structural, electrical, and mechanical to see that they meet appropriate installation and construction practices; coordinate and observe specified tests on materials and electrical and mechanical systems to ensure that the contractor performs tasks properly; and prepare logs, records, and reports on all inspections and tests. *Version 2:* Upon completion of the course, the student will be able to review and analyze project construction drawings and specifications; prepare a construction inspection plan including a check list of quality assurance inspection points for critical phases of construction and installation; verify that all materials/equipment ordered meet specifications; inspect all phases of construction, including civil, architectural and structural, electrical, and mechanical to see that they meet appropriate installation and construction practices; coordinate and observe specified tests on materials and electrical and mechanical systems to ensure that the contractor performs tasks properly; and prepare logs, records, and reports on all inspections and tests.

Instruction: *Version 1:* Lectures and practical exercises cover the duties of construction inspector. *Version 2:* Lectures and practical exercises cover the duties of construction inspector.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree

category, 3 semester hours in codes and specifications, 3 in methods of construction, 3 in materials of construction, and 3 in mechanical/electrical equipment in buildings (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in plans and specifications, 3 in (building) construction, and 3 in (building) materials (3/91).

NV-1408-0036

Gunnery Officer

Course Number: J-2E-0100.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 5/91–10/94.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate communication skills through written forms/reports and through oral presentations.

Instruction: Lectures and practical exercises on administrative topics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in administrative management (10/91).

NV-1408-0037

Religious Program Specialist, Class C
(Ministry Support)

Course Number: A-561-0006.

Location: Technical Training Center, Meridian, MS.

Length: 2 weeks (80 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use survey data; train command religious program volunteers; evaluate religious education programs; order teacher support materials; monitor religious program budget; dispose of plant property, minor property, and nonappropriated fund property; requisition services; contract manpower support; review manpower authorizations; and submit manpower request documents.

Instruction: Course covers religious ministry support, including planning systems; logistic, financial, and administrative analysis; and management. Methods include lectures, discussions, and practical exercises.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours for field experience in management (11/92).

NV-1408-0038

Health Resources Management

Course Number: B-300-0789.

Location: School of Health Sciences, Bethesda, MD.

Length: 2 weeks (79 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply basic management theories and identify key issues in a health care environment with a focus on providing resources and/or references for referral.

Instruction: Lectures, group exercises, videos, and writing assignments address management theory, communication skills, health care resources, conflict management, basic writing skills, legal issues, crisis intervention, and stress management.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in human relations (6/93).

NV-1409-0001

Personnelman, Class A

Course Number: A-500-0026; A-500-0015; A-500-0014.

Location: Naval Training Center, Meridian, MS; Training Center, Orlando, FL; Service School Command, San Diego, CA; Service School Command, Bainbridge, MD.

Length: Self-paced, 7 weeks (303 hours).

Exhibit Dates: 1/90–8/92.

Objectives: After 8/92 see NV-1406-0023. To train enlisted personnel as personnel strikers.

Instruction: Lectures and practical exercises cover correspondence, typing, filing, manpower utilization, and personnel testing. Typing instruction is provided only for students who enter the course as nonqualified typists. Emphasis is on manual records and forms.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in typing and 2 in business communication (6/84).

NV-1409-0002

Yeoman, Class A

Course Number: A-510-0012.

Location: Naval School, Orlando, FL; Naval School, San Diego, CA; Naval School, Meridian, MS; Naval School, Bainbridge, MD.

Length: Self-paced, 7 weeks (280 hours).

Exhibit Dates: 1/90–9/91.

Objectives: After 9/91 see NV-1409-0012. To train enlisted personnel to perform as yeomen.

Instruction: Lectures and practical exercises cover the duties of a yeoman striker, including fundamentals of typewriting, advanced typewriting, office etiquette and efficiency, publications, classified material, filing, correspondence, personnel accounting, officer records, captain's office, executive officer's office, enlisted service record, shipboard department offices and associated records, and legal records and procedures. Instruction in typing is provided for students who enter the course as nonqualified typists. Emphasis is on manual records and forms.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in business communication and 2 in typing (6/84).

NV-1409-0009

Remote Information Exchange Terminal
Operator

Course Number: A-260-0068.

Location: Service School Command, San Diego, CA.

Length: 2 weeks (65 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand all operational aspects of the RIXT/SRT systems including purpose, operational characteristics and procedures, security requirements, controls, and documentation.

Instruction: Instruction is primarily lecture accompanied by overheads and reference materials. Examinations include hands-on application. Topics include all operational aspects of the RIXT/SRT systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding (10/92).

NV-1409-0010

Marine Aviation Operations Specialist

Course Number: C-517-2010.

Location: Technical Training Center, Meridian, MS.

Length: 9 weeks (329 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform multiple aviation functions including keyboarding, flight operations, record keeping, and correspondence.

Instruction: Course covers keyboarding, aircraft systems, materials security, record keeping, and airfield operations. Methods include lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding and 2 in clerical procedures (11/92).

NV-1409-0011

Aviation Maintenance Administration, Class
A1

Course Number: C-555-2010.

Location: Technical Training Center, Meridian, MS.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic aviation maintenance administration; receive, distribute, file, and produce correspondence; maintain a technical library; use logs and records; control inventory; and maintain maintenance records.

Instruction: Course includes office administration, technical publications, maintenance and supply management systems, aircraft equipment accounting and reporting, and aircraft logs and records maintenance. Methodology includes lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in introduction to computers, 1 in office administration, and 2 in records and information management (11/92).

NV-1409-0012

Yeoman, Class A

Course Number: A-510-0012.

Location: Technical Training Center, Meridian, MS.

Length: 7 weeks (272 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Before 10/91 see NV-1409-0002. Upon completion of the course, the student will be able to type 25 wpm and prepare naval correspondence.

Instruction: Course includes touch typing, standard letters, clerical procedures. The methods include lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in typing and 3 in clerical procedures (11/92).

NV-1409-0013

Job Oriented Basic Skills (JOBS), Strand 3

Course Number: A-510-0020.

Location: Technical Training Center, Meridian, MS.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have the English, mathematics, and typing skills necessary to enter a basic Navy career school.

Instruction: Course covers basic mathematics, correspondence, Navy supply system, pay procedures, and typing. Methods include lectures, discussions, and practice.

Credit Recommendation: In the vocational certificate category, 2 semester hours in fundamentals of mathematics and 2 in fundamentals of English (11/92); in the lower-division baccalaureate/associate degree category, 1 semester hour in typing (11/92).

NV-1511-0010

Naval War College Correspondence Course
in National Security Decision Making

Course Number: None.

Location: Naval War College, Newport, RI.

Length: Maximum, 52 weeks.

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, students will be able to utilize analytical skills with respect to decisions involving complex, resource-constrained national security issues. They will develop competence in the major behavioral and management control techniques that influence national security.

Instruction: The course is divided into three units. These consist of the force planning component which focuses on themes valuable in selecting military forces for the future; the defense analysis segment which emphasizes the decision process for dealing with complex problems of resource allocation within the Department of Defense; and the policy making and implementation unit which treats political organizational and behavioral phenomena relevant to national security decision making. Written responses to guidance questions related to the readings are utilized. Extensive critical evaluation by the faculty of the written work is provided. A proctored final examination is administered.

Credit Recommendation: In the graduate degree category, 3 semester hours in national security planning, defense analysis, or policy making and implementation (9/87).

NV-1511-0011

Naval War College Correspondence Course
in Strategy and Policy

Course Number: None.

Location: Naval War College, Newport, RI.

Length: Maximum, 52 weeks.

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will have the analytical skills necessary to deal systematically with broad strategic questions at a high level of generality and abstraction. Closely related to this objective, the course will provide the students with a broad historical perspective on strategic questions against which to view and analyze contemporary issues. Throughout, the student will be introduced to the ambiguities in the process of framing grand strategy.

Instruction: Instruction in this course involves heavy reading in the basic professional literature in the areas of military history, international relations, and strategy, focusing upon a series of about seven case studies. The student prepares one or more analytical papers on a topic pertaining to the case study; a detailed three to four page critique is prepared by a member of the faculty. A final, three-hour, closed-book written examination is administered in a proctored environment.

Credit Recommendation: In the graduate degree category, 3 semester hours in history, international relations, or military studies (9/87).

NV-1511-0012

Strategy and Policy (College of Naval
Warfare/Naval Command College)

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 14 weeks (126 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the junior and senior student officers will have the analytical skills necessary to deal systematically with broad strategic questions at a high level of generality and abstraction. Closely related to this objective, the course will make students aware of the broad range of considerations which such strategic thinking entails, including economics, geographic, cultural, political, resource, etc., and their complex interrelationships. In addition, the course will provide a broad historical perspective on strategic questions and strategic thinking, against which to view and analyze contemporary issues. Throughout, the students will be introduced to the ambiguities in the process of framing grand strategy.

Instruction: Instruction in the course involves extensive in-house as well as external lectures, contact-heavy faculty student relations, directed and simulated seminar discussion, and heavy reading in the basic professional literature in the areas of military history, international relations, and strategy, all based upon approximately a dozen case studies. Emphasis is placed upon the relationships between a nation's political interests and goals, and the way military force has been deployed to serve those interests and goals. Major themes include service coordination, the role of allies, policy-strategy match, military-civil relations, force-strategy match, and nonmilitary factors that affect national policy making.

Credit Recommendation: In the graduate degree category, 3 semester hours in history, 3 in international relations, and 3 in military studies (9/87).

NV-1511-0013

Strategy and Policy (College of Naval
Command and Staff)

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 12 weeks (108 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the junior/senior student officers will have the analytical skills necessary to deal systematically with broad strategic questions at a high level of generality and abstraction. Closely related to this objective, the course will make students aware of the broad range of considerations which such strategic thinking entails, including economic, geographic, cultural, political, resource, etc., and their complex interrelationships. In addition, the course provides a broad historical perspective on strategic questions and strategic thinking, against which to view and analyze contemporary issues. Throughout, the students will be introduced to the ambiguities in the process of framing grand strategy.

Instruction: Instruction in this course involves extensive in-house as well as external lectures, contact-heavy faculty student relations, directed and stimulated seminar discussion, and heavy reading in the basic professional literature in the areas of military history, international relations, and strategy, all based upon approximately a dozen case studies. Emphasis is placed upon the relationships between a nation's political interests and goals, and the way military force has been deployed to serve those interests and goals. Major themes include service coordination, the role of allies, policy-strategy match, military-civil relations, force-strategy match, and nonmilitary factors that affect national policy making.

Credit Recommendation: In the graduate degree category, 3 semester hours in history, 3 in international relations, and 3 in military studies (9/87).

NV-1511-0014

National Security Decision Making for
College of Naval Warfare and Naval
Command College

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 13 weeks (156-157 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to use multidisciplinary tools of analysis in decision making and implementation situations. The student will be trained to deal with complex issues within the national security arena.

Instruction: The course is divided into three units, the force planning component focuses on themes valuable in selecting military forces for the future; the defense analysis segment emphasizes the decision process for dealing with complex problems of resource allocation within the Department of Defense; and the policy making and implementation unit treats political, organizational and behavioral phenomena relevant to national security decision making. Lectures, seminars, extensive readings, and case preparation are the primary learning methods. Oral and written reports are required. Final examinations follow the completion of each unit.

Credit Recommendation: In the graduate degree category, 3 semester hours in national security planning, 3 in defense analysis, and 2 in policy making and implementation (9/87).

NV-1511-0015

National Security Decision Making for
College of Naval Command and Staff

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 13 weeks (146-147 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to utilize multi-disciplinary tools of analysis in decision making and implementation situations. The student will be trained to deal with complex issues within the national security arena. Skills in areas such as resource allocation, force planning and management control will be developed.

Instruction: The course is divided into three units: the force planning component focuses on themes valuable in selecting military forces for the future, the defense analysis segment emphasizes the decision process for dealing with complex problems of resource allocation within the Department of Defense, and the policy making and implementation unit treats political, organizational and behavioral phenomena relevant to national security decision making. Lectures, seminars, extensive reading and case preparation are the primary learning methods. Oral and written reports are required. Final examinations follow the completion of each unit.

Credit Recommendation: In the graduate degree category, 3 semester hours in national security planning, 3 in defense analysis, and 2 in policy making and implementation (9/87).

NV-1511-0016

1. Basic Intelligence Training
2. Basic Intelligence Training Subjects

Course Number: *Version 1:* K-3A-0950. *Version 2:* J-3A-0950.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 2 weeks (78-80 hours). *Version 2:* 2 weeks (77 hours).

Exhibit Dates: *Version 1:* 12/93–3/95. *Version 2:* 1/90–11/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe military threats, intelligence systems, and sources of fundamental intelligence data. *Version 2:* Upon completion of the course, the student will be able to read maps and charts and understand introductory electronic warfare and basic operations of the Soviet military.

Instruction: *Version 1:* Lectures, examinations, laboratory experiences, and group exercises cover intelligence reports, briefing techniques, threats, missile and intelligence systems, maps and charts, naval geography, aerial photographic interpretation, introduction to terrorism, and Middle Eastern culture. *Version 2:* Lectures, exams, laboratory experience, and group exercises cover briefing, use of maps and charts, electronic warfare, intelligence collection and photography, Soviet military studies, and Third World characteristics.

Credit Recommendation: *Version 1:* Credit is not recommended because of the limited, specialized nature of the course (9/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to Soviet studies (12/87).

NV-1511-0017

Intelligence Specialist, Class A

Course Number: *Version 1:* J-242-0010. *Version 2:* J-242-0010.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 16 weeks (728 hours). *Version 2:* 11 weeks (434 hours).

Exhibit Dates: *Version 1:* 3/92–Present. *Version 2:* 1/90–9/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to analyze intelligence reports; interpret counterdrug intelligence; interpret national estimates; read, interpret, and prepare maps and charts; perform basic data processing; assess technical means of gathering intelligence; and interpret aerial photographs. *Version 2:* Upon completion of the course, the student will be able to analyze intelligence reports; interpret national estimates; read, interpret, and prepare maps and charts; perform basic data processing; assess technical means of gathering intelligence; and interpret aerial photographs.

Instruction: *Version 1:* Course includes lectures, examinations, laboratory experience, and use of basic library and technical sources for counter-drugs intelligence information. *Version 2:* Course includes lectures, examinations, laboratory experience, and use of basic library and related sources for intelligence information.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in map reading and 2 in national security or intelligence (9/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to Soviet studies and 3 in introduction to geopolitics (12/87).

NV-1511-0018

Marine Air-Ground Task Force Intelligence Officer

Course Number: *Version 1:* OJJ; G-243-4210. *Version 2:* G-243-4210.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 14 weeks (560-672 hours). *Version 2:* 11 weeks (366 hours).

Exhibit Dates: *Version 1:* 6/90–Present. *Version 2:* 1/90–5/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to utilize the current data base of combat intelligence information, manage the intelligence collection effort, manage the intelligence section, advise superior officers on intelligence aspects of unit operations, manage intelligence training, function as a target intelligence officer, serve as a unit assistant security manager, supervise unit counterintelligence effort and the administration of the intelligence section, understand the operation of intelligence gathering and interpretation, prepare national estimates, and apply geopolitical concepts. *Version 2:* Upon completion of the course, the student will be able to utilize the current data base of combat intelligence information, manage the intelligence collection effort, manage the intelligence section, advise superior officers in intelligence aspects of unit operations, manage intelligence training, function as a target intelligence officer, serve as a unit assistant security manager, supervise unit counterintelligence effort and the administration of the intelligence section, understand the operation of intelligence gathering and interpretation, prepare national estimates, and apply geopolitical concepts.

Instruction: *Version 1:* Lectures, examinations, laboratory, and field activities provide instruction in Fleet Marine Force organization, Naval Intelligence Processing System, Marine Air-Ground Intelligence System, intelligence reports and documents, intelligence collection agencies, map reading, amphibious intelligence planning and targeting, counterintelligence, electronic warfare support measures, planning and tasking documents, and management principles. Course includes a command post exercise during which students participate as members of the intelligence section of a landing force being employed in an amphibious assault. *Version 2:* Lectures, examinations, laboratory, and field activities that provide instruction in Fleet Marine Force organization, Naval Intelligence Processing System, Marine Air-Ground Intelligence System, intelligence reports and documents, intelligence collection agencies, amphibious intelligence planning and targeting, counterintelligence, electronic warfare support measures, Tactical Exploitation of National Capabilities planning, tasking documents, and management principles. Course includes a command post exercise during which students participate as members of the intelligence section of a landing force being employed in an amphibious assault.

Credit Recommendation: *Version 1:* In the upper-division baccalaureate category, 3 semester hours in management problems (9/94). *Version 2:* In the upper-division baccalaureate category, 3 semester hours in Soviet studies and 3 in management problems (12/87).

NV-1511-0019

Marine Air-Ground Task Force Intelligence Specialist Entry

Course Number: *Version 1:* OJA; J-243-4207. *Version 2:* J-243-4207.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 10 weeks (405 hours). *Version 2:* 8 weeks (401 hours).

Exhibit Dates: *Version 1:* 7/90–Present. *Version 2:* 1/90–6/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use current data base of combat intelligence information, assist in the management of intelligence collection, assist in the processing of intelligence information, assist in the use of intelligence information for identifying targets, assist in the management of the administration of an intelligence unit, analyze intelligence reports, interpret national estimates, and read and interpret maps. *Version 2:* Upon completion of the course, the student will be able to use current data base of combat intelligence information, assist in the management of intelligence collection, assist in the processing of intelligence information, assist in the use of intelligence information for identifying targets, assist in the management of the administration of an intelligence unit, analyze intelligence reports, interpret national estimates, and read and interpret maps.

Instruction: *Version 1:* Lectures, examinations, laboratory, and field activities provide instruction in map reading; collection, production, and dissemination of intelligence; intelligence activities during each phase of an amphibious operation; organization of the Fleet Marine Force; intelligence sources and documents; order of battle; beach and helicopter landing zone intelligence; security; naval communications procedures; reconnaissance agencies; and basic correspondence and filing techniques. Course includes a command post exercise during which students participate as members of the intelligence section of a Marine Air-Ground Task Force being employed in an amphibious assault. *Version 2:* Lectures, examinations, laboratory, and field activities provide instruction in map reading; collection, production, and dissemination of intelligence; intelligence activities during each phase of an amphibious operation; organization of the Fleet Marine Force; intelligence sources and documents; order of battle; beach and helicopter landing zone intelligence; security; naval communications procedures; reconnaissance agencies; and basic correspondence and filing techniques. Course includes a command post exercise during which students participate as members of the intelligence section of a Marine Air/Ground Task Force being employed in an amphibious assault.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to technical communications and 3 in introduction to area studies (9/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to Soviet studies and 3 in introduction to technical communications (12/87).

NV-1511-0020

MARINE AIR-GROUND TASK FORCE INTELLIGENCE SPECIALIST INTERMEDIATE

Course Number: J-243-4208.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 10 weeks (388 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: After 8/93 see NV-1511-0036. Upon completion of the course, the student will be able to use current data base of combat intelligence information; participate in the management of the intelligence collection effort, intelligence training, administration of the intelligence section, and intelligence personnel and career development programs; understand the operation of intelligence gathering and interpretation; prepare national estimates; and apply basic geopolitical concepts.

Instruction: Lectures, examinations, laboratory, and field activities provide instruction in Fleet Marine Force and Marine Air-Ground Task Force organization; Naval Intelligence Processing System; Marine Air Ground Intelligence System; intelligence publications, documents, and records; intelligence collection agencies; intelligence planning; target intelligence; counterintelligence; electronic warfare; intelligence collection planning at the national level; intelligence collection management principles; and security education and training. Course includes a command post exercise during which students participate as members of the intelligence section of a landing force.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in Soviet studies and 3 in management problems (12/87).

NV-1511-0021

SHIPBOARD INTELLIGENCE ANALYST

Course Number: *Version 1:* J-243-0969. *Version 2:* J-243-0969.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 5-6 weeks (224 hours). *Version 2:* 3 weeks (109 hours).

Exhibit Dates: *Version 1:* 2/97–Present. *Version 2:* 1/90–1/97.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to identify foreign ships (naval and merchant marine), conduct briefings about sightings and the threat they may pose, maintain a library, and relate immediate circumstances to larger threat considerations.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and practical exercises cover conducting briefings; effectively using library resources; Soviet, Eastern European, Cuban, and Iranian naval and merchant ships and their relationship to the general threat posed; and specific identification of foreign ships.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the upper-division baccalaureate category, 1 semester hour in Soviet studies (12/87).

NV-1511-0022

NAVAL INTELLIGENCE OFFICER

Course Number: *Version 1:* J-3A-0010. *Version 2:* J-3A-0010.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 21 weeks (827 hours). *Version 2:* 21 weeks (827 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 1/90–12/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the individual will be prepared for an initial intelligence assignment. *Version 2:* Upon completion of the course, the student will be able to solve intelligence problems, prepare and present intelligence briefings, and function effectively as a member of an intelligence team.

Instruction: *Version 1:* Through lecture, laboratory, and practical exercises, the junior Navy officer is introduced to naval intelligence; briefings; maps, charts, and intelligence reports; electronic warfare; naval warfare; ground and amphibious warfare; geopolitics; air warfare; imagery interpretation; strike warfare; and operational intelligence. *Version 2:* Through lecture, laboratory, and practical exercises, the junior Navy officer reviews security and intelligence operations; applies basic map reading and image interpretation skills; studies US and enemy weapons; understands mission planning; and applies special intelligence techniques.

Credit Recommendation: *Version 1:* In the upper-division baccalaureate category, 3 semester hours in geopolitics (9/94). *Version 2:* In the upper-division baccalaureate category, 3 semester hours in geopolitics and 3 in Soviet studies (12/87).

NV-1511-0024

1. JOINT INTELLIGENCE
2. ADVANCED OPERATIONAL INTELLIGENCE ANALYSIS

(Operational Intelligence Analysis)

Course Number: *Version 1:* J-243-0972. *Version 2:* J-243-0972.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 4 weeks (120-160 hours). *Version 2:* 5 weeks (193 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 1/90–12/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate in a joint intelligence environment, describe the overall intelligence structure as well as those of other service branches, and use the various types of intelligence (HUMINT, IMINT, SIGINT, MASINT) and apply these in practical exercises. *Version 2:* Upon completion of the course, the student will be able to identify foreign ships and their operational characteristics and other friendly naval merchant ships, conduct briefings about sightings and the threat that they pose, maintain a technical data base, and relate immediate circumstances to the larger threat considerations.

Instruction: *Version 1:* Instruction consists of lectures on the joint warfare environment, the various forms of intelligence, overall intelligence structures, and the use of satellite communications. The course concludes with a four-day practical exercise. *Version 2:* Instruction consists of lectures, visual aids, student briefings, and extensive practical exercises encompassing operational intelligence sensor systems; US and foreign weapons systems—performance and capabilities; US, Soviet, and Third World maritime warfare missions, operations, tactics, and command and control; operational intelligence briefings; preparation of operational intelligence summaries and advisory reports; security procedures; and principles of operational intelligence, analysis, reporting, and message drafting.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in social science (9/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in a physical science elective and 1 in technical communication (12/87).

NV-1511-0025

STRATEGY AND POLICY NONRESIDENT SEMINAR

Course Number: None.

Location: White Oak, MD; Washington, D.C; Seattle, WA; San Francisco, CA; San Diego, CA; Pensacola, FL; Patuxent, MD; Norfolk, VA; Newport, RI; Dahlgren, VA; Corpus Christi, TX; Annapolis, MD.

Length: 36 weeks (72 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will have the analytical skills to deal systematically with broad strategic questions. Closely related to this objective, the course will make the students aware of the complexity as well as ambiguity of the broad range of directions which such strategic thinking entails. In addition, the course will provide for the students a broad historical perspective on strategic questions and thinking against which to view and analyze contemporary issues.

Instruction: Instruction in the course involves one lecture per case study, a simulated seminar discussion, and extensive reading in the basic professional literature in the areas of military history, international relations, and strategy, all based upon about nine case studies. Five papers (five to ten pages each), three critiques, and two two-hour examinations are assigned.

Credit Recommendation: In the graduate degree category, 2 semester hours in history, 2 in international relations, and 2 in military studies (3/88).

NV-1511-0026

National Security Decision Making Nonresident Seminar

Course Number: None.

Location: White Oak, MD; Washington, D.C; Seattle, WA; San Francisco, CA; San Diego, CA; Pensacola, FL; Patuxent, MD; Norfolk, VA; Newport, RI; Dahlgren, VA; Corpus Christi, TX; Annapolis, MD.

Length: 36 weeks (90 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to use multidisciplinary tools of analysis in decision making and implementation situations. They will be trained to deal with complex issues within the national security arena. Skills in areas such as resource allocation, force planning and management control will be developed.

Instruction: The course is divided into three units; the force planning component focuses on themes valuable in selecting military forces for the future. The defense analysis segment emphasizes the decision process for dealing with complex problems of resource allocation within the Department of Defense. The policy making and implementation units emphasizes political, organizational, and behavioral phenomena relevant to national security decision making. Lectures, seminars, extensive reading, and case preparation are the primary learning methods. Mid-term and final examinations are required.

Credit Recommendation: In the graduate degree category, 3 semester hours in national security planning and defense analysis and 2 in policy making and implementation (3/88).

NV-1511-0027

Basic Navy Operational Intelligence

Course Number: J-3A-0030.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/95.

Learning Outcomes: Upon completion of the course, the student will be able to apply the fundamentals of operational intelligence and the ocean surveillance information system.

Instruction: Instruction includes lectures, readings, field trips, and a substantial practical exercise. Topics include fleet intelligence operation; messages and reports; electronic warfare; defense analysis; and Soviet naval command, control, and communications.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in Soviet studies (7/88).

NV-1511-0028

Marine Air-Ground Task Force Counterintelligence

Course Number: *Version 1:* J-244-0944. *Version 2:* J-244-0944.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 17 weeks (836 hours). *Version 2:* 14-15 weeks (608 hours).

Exhibit Dates: *Version 1:* 7/94–Present. *Version 2:* 1/90–6/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to function as a member of a counterintelligence team at the headquarters level. *Version 2:* Upon completion of the course, the student will be able to function as a member of a counterintelligence team at the headquarters level.

Instruction: *Version 1:* Course includes classroom instruction, self-paced texts, and practical exercises in the field. Major topics include national, Department of Defense, and Marine Corps intelligence assets; applications of counterintelligence, terrorism, tactical functions, and security services; communication; human intelligence operations; and interrogation techniques. The training course includes weekends. *Version 2:* Course includes classroom instruction, self-paced texts, and practical exercises in the field. Major topics include national, Department of Defense, and Marine Corps intelligence assets; applications of counterintelligence, terrorism, tactical functions, and security services; communication; human intelligence operations; and interrogation techniques. The 14-15 weeks of training include weekends.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal justice and 3 in principles of investigation, police procedures, or security techniques (9/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of investigation, 3 in security techniques, 3 in technical communication, 3 in interviewing and interrogation, and 3 in legal principles (7/88); in the upper-division baccalaureate category, 3 semester hour in political science (major foreign powers) and 3-6 in physical security practicum on the basis of institutional evaluation (7/88).

NV-1511-0029

Marine Air-Ground Task Force Intelligence Officer Reserve, Phases 1 and 2

Course Number: J-3A-4214; J-3A-4224.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and interpret intelligence reports, use military intelligence libraries and sources of information, employ and understand the vocabulary of intelligence, handle classified materials properly, and apply basic concepts of military strategy.

Instruction: Instruction includes lectures, practical exercises, presentation of an oral briefing, participation in a team project, and course examinations. Topics include a description of the intelligence community; intelligence definitions; preparing and interpreting intelligence estimates; using maps, terrorism, and geographical factors in intelligence operations; targeting; and considerations for personal security.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in political science (national security) and 1 in an advanced physical geography elective (7/88).

NV-1511-0030

Marine Air-Ground Task Force Intelligence Specialist Reserve (Phases 1 and 2)

Course Number: J-243-4223, Phase 2; J-243-4213, Phase 1.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and interpret intelligence reports, use military intelligence libraries and sources of information, and handle classified materials properly.

Instruction: Lectures, practical exercises, presentation of an oral briefing, team projects, and examinations cover the intelligence community, the use of maps, the study of terrorism, and the analysis of geographical factors in intelligence operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in political science (introduction to national security) and 1 in a physical geography elective (7/88).

NV-1511-0031

Intelligence Officer Refresher

Course Number: J-3A-0952.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–7/95.

Learning Outcomes: Upon completion of the course, the student will be able to deal with general national security considerations and the basics of geopolitics and naval strategy and understand major characteristics of sensors and electronic intelligence.

Instruction: Lectures, readings, and exams cover maritime strategy, geographic areas of naval operations, and methods and types of electronic intelligence (ELINT).

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in political science (national security) and 1 in an advanced physical geography elective (7/88).

NV-1511-0032

Intelligence Specialist, Class A, Operational Intelligence Reserve, Phases 1 and 2

Course Number: *Version 1:* J-242-2014. *Version 2:* J-242-2014; J-242-2013.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 2-3 weeks (96 hours).

Exhibit Dates: *Version 1:* 4/91–10/95. *Version 2:* 1/90–3/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe regional intelligence issues and various techniques of remotely gathered intelligence information. *Version 2:* Upon completion of the course, the student will be able to deal with general national security considerations and the basics of electromagnetic radiation, types of intelligence gathering techniques, and analysis of sensor characteristics.

Instruction: *Version 1:* Through lectures, examinations, and practical exercises, the student learns to collect intelligence information using a variety of electronic sensors and to provide briefings on sensitive world areas. *Version 2:* Lectures, discussion, examinations, and practical exercises cover sensor characteristics, principles of electronic intelligence, automated intelligence data processing and data bases, US and foreign naval strategic forces, intelligence reporting, and communication.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in area studies (9/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in political science (introduction to national security) and 1 in technical communication (7/88).

NV-1511-0033

Naval Intelligence Mid-Career

Course Number: *Version 1:* J-3A-0998. *Version 2:* J-3A-0998.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2-3 weeks (88-99 hours).

Exhibit Dates: *Version 1:* 9/94–Present. *Version 2:* 1/90–8/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to analyze high-level intelligence and national security questions in light of world instability; analyze US maritime strategy, commitments, and operations; and understand multidimensional aspects of command, control, communications, and intelligence and the complex nature of joint and coalition warfare. *Version 2:* Upon completion of the course, the student will be able to judge high-level intelligence and national security questions, including evaluation of the Soviet Union in particular, and analyze US maritime strategy and multidimensional aspects of command, control, communication, and intelligence.

Instruction: *Version 1:* Lectures by major figures in the US intelligence community, supplemental readings, and extensive class discussions cover how US naval strategy supports US policy, naval intelligence in joint and coalition warfare, capabilities and strategy of major maritime powers, terrorism, resource management, and significant political developments throughout the world. *Version 2:* Lectures by major figures in the US intelligence community and experienced practitioners of US Naval Intelligence, as well as required readings and extensive class discussion cover how US naval strategy supports US policy, capabilities and strategy of the Soviet Navy, changing political developments in the Soviet Union, questions of security and counterintelligence, terrorism, managing resources, and practical shipboard applications of broad general intelligence guidelines.

Credit Recommendation: *Version 1:* In the upper-division baccalaureate category, 3 semester hours political science, issues in national security, or intelligence planning (9/94). *Version 2:* In the upper-division baccalaureate category, 3 semester hours in political science (national security) (7/88).

NV-1511-0034

Naval Staff College

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 23 weeks (460 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the fundamentals of foreign policy and military (naval) strategy, principles of managing a defense organization, and methods for optimizing employment of naval forces in peacetime and in general conventional war deployments and how to make sound, defense-related decisions.

Instruction: Lectures, discussion sections, case studies, gaming, a research paper, and written examinations cover policy and strategy, employment of naval forces, international law and ocean affairs, and national security decision making.

Credit Recommendation: In the graduate degree category, 3 semester hours in military studies, 3 in history, and 2 in management decision making/defense analysis or 6 semester hours in military studies and 2 in management decision making/defense analysis (8/88).

NV-1511-0036

Marine Air-Ground Task Force Intelligence
(Intermediate) Chief

Course Number: OJB; J-243-4208.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 9 weeks (343-344 hours).

Exhibit Dates: 9/93–Present.

Learning Outcomes: Before 9/93 see NV-1511-0020. Upon completion of the course, the student will be able to describe the basics of naval expeditionary force structure and amphibious task force and carrier battle group and their mission and capabilities; amphibious joint intelligence center operation; intelligence preparation of the battlefield; collection resources and management; and joint intelligence architecture, targeting, and contingency planning.

Instruction: Lectures, examinations, field trips, and demonstrations cover intelligence foundations, dissemination, analysis, systems, and collection management. Signals, aviation, and logistics intelligence are also covered as well as organic collection assets.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in management problems (9/94).

NV-1601-0017

SSM Automatic Degaussing Equipment
Maintenance for the DD-963
(SSM Degaussing System for DD-963 Class
Destroyer, Class C1)

Course Number: A-690-0022.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–1/93.

Objectives: After 9/96 see NV-1714-0085. To train personnel to operate and maintain the degaussing system.

Instruction: Instruction includes the theory of degaussing; the operation of the degaussing control systems; and adjustment, maintenance, and troubleshooting associated electrical equipment related to the degaussing system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/83).

NV-1601-0018

Oxygen Generator 6L16 Operator
(Treadwell Oxygen Generator Operation/
Maintenance 6L16)
(Oxygen Generator Operator 6L16)

Course Number: *Version 1:* A-652-0050. *Version 2:* A-652-0050.

Location: *Version 1:* Submarine Training Facility, Norfolk, VA; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Center, San Diego, CA; Submarine Training Center, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA. *Version 2:* Submarine Training Center, New London, Groton, CT; Submarine Training Center, San Diego, CA; Submarine Training Center, Pearl Harbor, HI; Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: *Version 1:* 3 weeks (160 hours). *Version 2:* 3 weeks (115-120 hours).

Exhibit Dates: *Version 1:* 9/94–Present. *Version 2:* 1/90–8/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be provided with the knowledge necessary to operate, repair, and maintain the 6L16 oxygen generator. *Version 2:* Upon completion of the course, the student will be provided with the knowledge necessary to operate, repair, and maintain the 6L16 oxygen generator.

Instruction: *Version 1:* Lectures and practical exercises cover the theory and operation, maintenance, and troubleshooting of the oxygen generator and its various systems. *Version 2:* Lectures and practical exercises cover the theory and operation, maintenance, and troubleshooting of the oxygen generator and its various systems.

Credit Recommendation: *Version 1:* Credit is not recommended because of the limited, specialized nature of the course (2/96). *Version 2:* Credit is not recommended because of the limited, specialized nature of the course (10/89).

NV-1601-0019

Oxygen Generator Operator/Mechanical
Technician

Course Number: A-652-0051.

Location: Submarine Base, New London, Groton, CT; Submarine Training Center, Pearl Harbor, HI; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: 3 weeks (109 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To train enlisted personnel to operate, maintain, and repair the 7L16 oxygen generator.

Instruction: Lectures and practical exercises cover the operation, repair, and troubleshooting of the 7L16 generator, including the theory of liquid and gas systems; functions of all pneumatic control system components; and the use of dial indicators, torque wrenches, and gas calibration equipment.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/81).

NV-1601-0020

Engineering Principles and Practices

Course Number: A-651-0066.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (57 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel to perform maintenance on basic mechanical components.

Instruction: Lectures and practical exercises cover maintenance of basic mechanical components, including sensing instruments, mechanical fasteners and locking devices, static and dynamic fluid seals, lubrication, bearings, and flexible couplings.

Credit Recommendation: In the vocational certificate category, 2 semester hours in mechanical systems maintenance (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems laboratory (5/82).

NV-1601-0022

Boiler Water/Feed Water Test and Treatment Instructor Certification

Course Number: A-651-0103.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To prepare officer and enlisted naval personnel in boiler water testing and treatment.

Instruction: Classroom instruction and practical exercises cover boiler water conditioning. Course also covers basic mathematics, algebra exponents, scientific notation, logarithms, and proportions and water chemistry, including atomic structure, the periodic table, equations, stoichiometry, acid-base reactions, pH concept, electrolysis, chemical testing, and corrosion control in Idle 8 operational high-pressure steam generators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic mathematics and 2 in basic chemistry (11/82).

NV-1601-0023

FFG-7 PCO/PXO Gas Turbine Engineering

Course Number: A-4H-0061.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To provide prospective commanding and executive officers with an overall knowledge of the FFG-7 ship's engineering system including administrative and managerial duties.

Instruction: The course is technical in content and deals specifically with marine gas turbine plant engineering. Major topics include the unique power train and its control system, the generation distribution and control system of the ship's electrical plant, and auxiliary systems and their respective controls and monitoring requirements. In addition, related managerial and administrative responsibilities are reviewed.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in maintenance management (11/82).

NV-1601-0024

DD-963 PCO/PXO Gas Turbine Engineering

Course Number: A-4H-0043.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 2-3 weeks (72-80 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To provide prospective commanding and executive officers with a general knowledge of the engineering system installed in a DD-963 destroyer including administrative and managerial responsibilities.

Instruction: The course gives the officer a general overview of the marine gas turbine plant, including the power train and its control system, the generation distribution and control system of the ship's electrical plant, and the auxiliary system. In addition, administrative and managerial responsibilities are covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in maintenance management (11/82).

NV-1601-0025

DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator

Course Number: A-652-0225.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train personnel in the operation of the Model 104 gas turbine generator set and wastewater heater.

Instruction: Lectures and practical exercises cover the operation of the gas turbine, including turbine assembly, coaling systems, intake, exhaust, reduction gears, ignition systems, starting systems, fuel systems, fire fighting detectors, and waste heat boiler system and operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in gas turbine theory and operation and 1 in gas turbine operation laboratory (10/83).

NV-1601-0026

FFG-7 Class Degaussing System Maintenance

Course Number: A-690-0078.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–10/93.

Objectives: After 9/96 see NV-1714-0084. To train personnel to operate and maintain a degaussing system.

Instruction: Lectures and laboratory exercises cover the theory of degaussing; operation of the degaussing control systems; and adjustment, maintenance, and troubleshooting of the electrical equipment related to the degaussing system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/83).

NV-1601-0027

Main Engine and Lube Oil Purifier

Course Number: A-651-0078.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 1-3 weeks (72-76 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to disassemble, inspect, and measure steam turbines and lube oil purifiers.

Instruction: Classroom and practical instruction cover steam turbines and lube oil purifiers. Course includes selection of parts and procedures for procurement of replacement parts.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in manufacturing processes (6/94).

NV-1601-0028

Vapor Compression Distiller Maintenance and Operation

Course Number: J-651-0488.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–11/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, service, and repair vapor compression distillers.

Instruction: Classroom and practical instruction cover vapor compression distillers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in distillation mechanical systems (6/94).

NV-1601-0029

Air Compressor and Compressed Air System Component Maintenance

Course Number: *Version 1:* A-651-0070. *Version 2:* A-651-0070.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 4-5 weeks (116 hours). *Version 2:* 2-3 weeks (100 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 1/90–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and maintain air compressor systems. *Version 2:* Upon completion of the course, the student will be able to operate and maintain air compressor systems.

Instruction: *Version 1:* Classroom and practical instruction cover the operation and maintenance of air compressors and compressed air systems, including low- and high-pressure compressors, air dryers/dehydrators, and maintenance principles. *Version 2:* Classroom and practical instruction cover the operation and maintenance of air compressors and compressed air systems including low- and high-pressure compressors, air dryers/dehydrators, and maintenance principles.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in mechanical compressor systems (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in mechanical compressor systems (3/89).

NV-1601-0030

I/R High Pressure Air Compressor Combined Maintenance

Course Number: A-652-0100.

Location: Submarine Training Center, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 1-2 weeks (52 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory, operation, and maintenance of high-pressure air compressors and perform maintenance and repairs.

Instruction: Lectures and laboratory instruction cover high-pressure air compressors.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in mechanical systems (air compressors) (10/89).

NV-1601-0031

Engineering Aid, Class A
(Technical Engineering)

Course Number: *Version 1:* 491-ITRO-51T10; 1614D1; 491-51T10; J3ABR3E531 001; A-412-0010; A1614D1. *Version 2:* A-412-0010.

Location: *Version 1:* Construction Training Center Detachment, Ft. Leonard Wood, MO. *Version 2:* Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 15-18 weeks (613-773 hours). *Version 2:* 10 weeks (370 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform soils analysis, fresh and hardened concrete tests, basic surveying, and computer-aided drafting (CAD). Army and Marine learners will also use automated instruments to perform traverse and radial surveys, create topographical maps, produce drawings, and lay out projects. *Version 2:* Upon completion of the course, the student will be able to perform basic drafting and surveying and conduct materials testing.

Instruction: *Version 1:* Course includes basic drafting and surveying and materials testing. *Version 2:* Lectures and practical exercises cover drafting, construction surveying, horizontal and vertical control, mapping, soil analysis, and quality control.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in soils testing, 1 in concrete testing, 3 in computer aided drafting, and 3 in surveying. Army and Marine students earn an additional 3 semester hours in advanced surveying (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in civil drafting, 3 in surveying, and 2 in materials testing (6/91).

NV-1601-0032

Equipment Operator Water Well Drilling and Development

Course Number: A-730-0014.

Location: Construction Training Center, Port Hueneme, CA.

Length: 4 weeks (155 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply skills in water well drilling and development operations.

Instruction: Lectures and practical exercises cover developing a water supply, safely operating and maintaining a rotary drilling machine, rigging pumps and piping, testing wells for purity, digging slush pits, and setting pits and fluid return sites.

Credit Recommendation: In the vocational certificate category, 3 semester hours in water well drilling (6/91).

NV-1601-0033

Oxygen Equipment Cleaning and Calibration

Course Number: A-670-0046.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (56 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to clean, repair, and calibrate pressure equipment which will be installed in an oil-free oxygen clean environment.

Instruction: Lectures, demonstrations, and hands-on laboratories cover safety equipment and regulations; sample testing; preparation and evaluation of data for determining hydrocarbon impurities; operation of infrared spectrophotometer; and cleaning, calibrating, and packaging prepared oxygen system equipment.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/98).

Related Occupations: ins .

NV-1601-0034

1. Shipboard Gauge Calibration Program Standards Maintenance
2. Shipboard Gage Calibration Program Standards Maintenance

Course Number: *Version 1:* A-670-0058. *Version 2:* A-670-0058.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 6-7 weeks (256 hours). *Version 2:* 7 weeks (213-233 hours).

Exhibit Dates: *Version 1:* 5/94–Present. *Version 2:* 12/90–4/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, troubleshoot, repair, and calibrate shipboard gauge calibration equipment. *Version 2:* Upon completion of this course, the student will have the knowledge and skills necessary to operate, troubleshoot, repair, and calibrate shipboard gauge calibration equipment.

Instruction: *Version 1:* Lectures, demonstrations, and hands-on laboratories cover pressure, temperature, and mathematical concepts and principals; the operation and use of Instrolab 420 2B-13-15 Digital Temperature indicator, Rosemount 162CE PRT, King Nutronics 3689A precision pressure standard, Fluke 8810A digital multimeter, and Tektronic 2336 oscilloscope to repair and calibrate to selected standards; operation, repair, and calibration of the King Nutronics 3666 automatic pressure calibration system, Hutron tracker equipment, Datametrics 1127-2 portable gage calibration system, and King Nutronics 3604/3605 thermo units. This course also includes group-paced lectures and laboratories covering AC circuits, inductance and capacitance, basic transistors, solid state devices, power supplies, and basic digital principles. *Version 2:* Lectures, demonstrations, and hands-on laboratories cover pressure, temperature, and mathematical concepts and principals; the operation and use of Instrolab 420 2B-13-15 Digital Temperature indicator, Rosemount 162CE PRT, King Nutronics 3689A precision pressure standard, Fluke 8810A digital multimeter, and Tektronic 2336 oscilloscope to repair and calibrate to selected standards; operation, repair, and calibration of the King Nutronics 3666 automatic pressure calibration system, King Nutronics 3657 portable calibration system, Datametrics 1127-2 portable gage calibration system, and King Nutronics 3604/3605 thermo units. After 5/95, Hutron tracker equipment was added and the King Nutronics 3657 portable calibration system was eliminated.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in precision measurement laboratory (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in precision measurement laboratory (1/93).

NV-1601-0035

Elevated Causeway

Course Number: K-062-0102.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 2-3 weeks (72 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, operate, maintain, and retrieve a modular elevated causeway.

Instruction: Curriculum is presented through classroom instruction and practical hands-on demonstrations. The skills acquired include equipment staging, causeway erecting, marine cargo handling, pile driving, causeway connectors, and installation of roadway sections.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in marine bridge construction (10/97).

NV-1601-0036

Offshore Petroleum Discharge System Officer-in-Charge

Course Number: K-2G-0439.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to supervise all systems associated with offshore petroleum discharge system.

Instruction: One week of classroom instruction is followed by two weeks of laboratory, including lectures, demonstrations, and practical applications. Course content includes planning, organizing, operating, and recover the system. Students will be instructed in conduit deployment methods, site surveys, operation order preparation, and petroleum pumping through conduit.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in marine cargo handling (liquid) (10/97).

NV-1601-0037

Elevated Causeway Navy Lighterage

Course Number: K-062-0103.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 2-3 weeks (88 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, operate, maintain, and retrieve an elevated causeway.

Instruction: Through the use of classroom instruction and practical hands-on demonstrations, the student acquires the skills of equipment staging, causeway erecting, marine cargo handling, pile driving, causeway connection, and installation of roadway sections.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in marine bridge construction (10/97).

NV-1601-0038

Offshore Petroleum Discharge System Beach Termination Unit (BTU) Operations Technician

Course Number: K-062-0104.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 2-3 weeks.

Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the beach termination unit system in conjunction with other systems and rebuild valves and regulators.

Instruction: Some classroom instruction is offered along with extensive laboratory activities and practical applications. Content includes system hookup, pumping, and recovery during hands-on phase.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/97).

NV-1601-0039

Naval Gunfire Liaison Officer
(Shore Fire Control Party Training Path System)

Course Number: K-2G-0040.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to plan naval gunfire action for a landing force in an amphibious operation.

Instruction: Lectures, demonstrations, practical applications, and field exercises cover map reading, land navigation, naval gunfire planning and spotting, and communications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in map reading and land navigation (10/97).

NV-1606-0008

Diver First Class

Course Number: A-433-018; A-433-0025.

Location: Diving and Salvage School, Washington, DC; Diving and Salvage Training Center, Panama City, FL.

Length: 14-26 weeks (465-858 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train enlisted personnel in advanced diving, salvage, and rescue operations.

Instruction: Lectures and practical experience cover advanced deep air and mixed gas surface-supplied diving; use of hyperbaric chambers; submarine rescue; underwater cutting and welding salvage techniques; administration, supervision, and certification of diving systems; and a review of diving physics and medicine.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in advanced diving technology (4/83); in the upper-division baccalaureate category, 1 semester hour in diving supervision and administration (4/83).

NV-1606-0009

Deep Sea Helium-Oxygen Diving Officer

Course Number: A-4N-0014.

Location: Diving and Salvage School, Washington, DC; Diving and Salvage Training Center, Panama City, FL.

Length: 9 weeks (368 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train diving officers in helium-oxygen deep diving techniques.

Instruction: Lectures and practical experience cover principles and problems of deep diving and use of helium-oxygen mixtures. Course includes the use of the submarine rescue chamber and an orientation to experimental diving.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in advanced diving technology (4/83); in the upper-division baccalaureate category, 1 semester hour in diving supervision and administration (4/83).

NV-1606-0010

Navy Diver Second Class
(Explosive Ordnance Disposal Diver Candidates)

Course Number: A-433-0022.

Location: Fleet Training Center, Pacific, Pearl Harbor, HI; Harbor Clearance Unit Two, Little Creek, VA; Amphibious School, Coronado, CA; Diving and Salvage Training Center, Panama City, FL.

Length: 12 weeks (488 hours).

Exhibit Dates: 1/90–4/91.

Objectives: After 4/91 see NV-1606-0079. To train enlisted personnel in the basic aspects of scuba diving and underwater practices.

Instruction: Lectures and practical exercises cover the physics and medical aspects of diving, open circuit scuba, surface supplied air, underwater power tools, welding, and related practices.

Credit Recommendation: In the vocational certificate category, 6 semester hours in marine diving technology (4/83); in the lower-division baccalaureate/associate degree category, 3 semester hours in marine diving technology (4/83); in the upper-division baccalaureate category, 1 semester hour in marine diving physiology (4/83).

NV-1606-0011

Scuba Diver

Course Number: A-433-0023.

Location: Naval School, New London, Groton, CT; Mobile Diving and Salvage Unit Two, Little Creek, VA; Naval School, Key West, FL; Naval School, San Diego, CA; Diving and Salvage Training Center, Panama City, FL; Mobile Diving Salvage Unit Two, Little Creek, VA; School Explosive Ordnance Disposal, Indian Head, MD; Amphibious School, Coronado, CA; Naval School, Pearl Harbor, HI.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–11/90.

Objectives: After 11/90 see NV-1606-0080. To train enlisted personnel in the basic aspects of scuba diving and underwater operations.

Instruction: Lectures and practical experiences cover the physics and medical aspects of diving, decompression theory, open-circuit theory, maintenance and repair, underwater hull inspection, underwater mechanical work techniques, escape training techniques, and diving administration.

Credit Recommendation: In the vocational certificate category, 3 semester hours in marine technology (4/83); in the lower-division baccalaureate/associate degree category, 2 semester hours in scuba diving (4/83).

NV-1606-0014

Medical Deep Sea Diving Technician
(Medical Deep Sea Diving Technician)
(Deep Sea Divers)

Course Number: A-433-0020.

Location: Deep Sea Divers School, Washington, DC; Diving and Salvage Training Center, Panama City, FL.

Length: 21-26 weeks (735-960 hours).

Exhibit Dates: 1/90–4/91.

Objectives: To train hospital personnel in the physiological effects of diving and in diving techniques.

Instruction: Lectures and practical exercises cover diving physics and physiology as applied to the treatment of compressed-gas illness, including deep air, mixed gas, and salvage surface-supported diving.

Credit Recommendation: In the vocational certificate category, 6 semester hours in marine diving technology (4/83); in the lower-division baccalaureate/associate degree category, 3 semester hours in marine diving technology and 4 in advanced diving technology (4/83); in the upper-division baccalaureate category, 1 semester hour in marine diving physiology and 2 in medical diving physiology. Please Note: This course comprises two courses: Navy Diver, Second Class (NV-1606-0010) and Medical Technician. The recommendation for Navy Diver, Second Class has been included in this exhibit (4/83).

NV-1606-0016

Master Diver Evaluation
(Master Diver Qualification)

Course Number: A-433-019; A-433-0019.

Location: Deep Sea Divers School, Washington, DC; Diving and Salvage Training Center, Panama City, FL.

Length: 5 weeks (160 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To prepare experienced divers to meet the eligibility requirements for the title, Master Diver.

Instruction: Lectures and practical experience cover refresher training in diving equipment, techniques, and safety, with emphasis on supervisory training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in diving technology (4/83); in the upper-division baccalaureate category, 2 semester hours in diving administration and supervision (4/83).

NV-1606-0017

Medical Department Diving Officers

Course Number: A-6A-0010; A-6N-0010.

Location: Diving and Salvage School, Washington, DC; Diving and Salvage Training Center, Panama City, FL.

Length: 8-9 weeks (256-360 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To provide medical officers with instruction in diving techniques with emphasis on the physiological aspects of diving.

Instruction: Course covers familiarization with deep sea, lightweight, and helium diving; operational use of scuba; limited training in underwater mechanics; and diving techniques with emphasis on the physiological aspects of diving.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in scuba diving (4/83); in the upper-division baccalaureate category, 4 semester hours in hyperbaric physiology (4/83).

NV-1606-0060

Operations Specialist, Class A1

Course Number: J-221-0011; A-221-0011.

Location: Service School Command, Great Lakes, IL; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 12-17 weeks (480-680 hours).

Exhibit Dates: 1/90–5/90.

Objectives: After 5/90 see NV-1606-0077. To train personnel to perform duties required in a combat information center.

Instruction: Lectures and practical exercises cover procedures used in message communications, radar navigation, radar course plotting, and vector plotting in the operation of radar systems and data interpretation.

Credit Recommendation: In the vocational certificate category, 2 semester hours in navigation practices and 1 in navigation laboratory (9/84).

NV-1606-0064

Basic Diving Officer

Course Number: A-4N-0024.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 13 weeks (488 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train officers to manage and perform operational diving duties requiring scuba or surface-supplied diving equipment.

Instruction: Lectures and practical exercises cover operational diving knowledge, including diving physics and medicine, advanced hyperbaric medicine, inspection and maintenance of open-circuit scuba equipment, dive planning, use of underwater power tools, Mk 12 diving equipment, underwater work techniques, underwater cutting and welding, salvage/diving administration, and salvage demolition procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in marine diving technology (4/83); in the upper-division baccalaureate category, 1 semester hour in diving supervision and administration and 1 in marine diving physiology (4/83).

NV-1606-0065

Ship Salvage Diving Officer

Course Number: A-4N-0026.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To provide officers with the training necessary to perform salvage diving and the associated administrative procedures.

Instruction: Lectures and practical exercises cover such engineering calculations as stability studies, buoyancy computations, and underwater engineering as applied to salvage diving operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in marine salvage technology (4/83); in the upper-division baccalaureate category, 1 semester hour in diving supervision and administration (4/83).

NV-1606-0066

VQ/VAQ/VMAQ Pilot and EA-3B Navigator
Electronic Warfare (EW) Officer

Course Number: C-2D-3815.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/93–10/97.

Objectives: To provide the student with the basic skills and background knowledge required to begin operational training for mission commander or navigator.

Learning Outcomes: Upon completion of the course, the student will be able to create an area order of battle from appropriate publications and message traffic, determine threat envelopes from reported signal activity by associating signal to system to threat to weapon range and altitude data, relay an assessment of the environment in accordance with the communication plan, and adjust mission plan for the actual environment to accomplish the basic ESM and ECM objectives.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/87).

NV-1606-0067

Strike Warfare Operational Intelligence
(OPINTEL) Analyst

Course Number: J-150-0962; D-150-0015.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–12/93.

Objectives: After 12/93 see NV-1606-0087. To provide the student with a comprehensive understanding of the capabilities and use of naval intelligence processing aboard ship.

Instruction: This course qualifies students to operate a variety of computer-assisted intelligence equipment, to evaluate and disseminate information, and to use and maintain intelligence resources.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/86).

NV-1606-0070

Landing Helo Auxiliary (LHA)/CVN Afloat
Intelligence Specialist
(Landing Helo Auxiliary (LHA) Afloat Intelligence Specialist)

Course Number: J-243-0968; D-243-0120.

Location: Intelligence Processing System Training Facility, Key West, FL; Air Station, Norfolk, VA; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5-7 weeks (184-280 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To provide the student with a comprehensive understanding of the capabilities of the naval intelligence processing system aboard small ships.

Instruction: Topics include basic instruction necessary to operate a variety of electronic and computer-assisted intelligence resources.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication (1/86).

NV-1606-0071

Air Navigation by Correspondence

Course Number: AFM-51-40; NAV AIR 00-80V-49.

Location: Development Center, Pensacola, FL.

Length: Maximum, 40 weeks.

Exhibit Dates: 1/90–12/96.

Objectives: To provide personnel with the skills needed to navigate in the air worldwide and within the airspace of the United States.

Instruction: Course provides instruction in maps and charts; dead reckoning; lines of position; fixes; navaids; radar; time, altitude, and true azimuth computation; star identification; plotting; sextants and errors of observation; grid navigation; over water aids; low level and advanced celestial navigation and systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in air navigation (11/86).

NV-1606-0072

Basic Shipboard Intelligence

Course Number: J-243-0981; K-3A-5034.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to participate in basic planning, collecting, processing, and disseminating intelligence data under limited supervision.

Instruction: This is a fundamental lecture survey course on basic intelligence, designed for officers and enlisted personnel.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (12/87).

NV-1606-0073

Intelligence Specialist, Class A, Operational Intelligence

Course Number: J-242-0994.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5 weeks (191 hours).

Exhibit Dates: 1/90–3/92.

Learning Outcomes: Upon completion of the course, the student will be able to assist naval intelligence officers in operational assignments ashore and afloat.

Instruction: Fundamental intelligence training through lecture and practical exercises cover organizing, processing, and safeguarding information; image interpretation; remote sensing; report writing; naval warfare; administration; correspondence preparation; briefing fundamentals; and research.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication (12/87).

NV-1606-0074

Imagery Interpretation (IIC)

Course Number: J-3A-0954; K-3A-0954.

Location: Fleet Intelligence Training Center, Pacific, San Diego, CA; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–8/94.

Learning Outcomes: After 8/94 see NV-1606-0085. Upon completion of the course, the student will be able to apply the fundamentals of basic imagery intelligence, reconnaissance systems, mission planning, and interpretation of resulting imagery.

Instruction: Lectures and extensive student practical exercises cover aerial imagery, mensuration, imagery interpretation and plotting, map reading, report writing, and physical security of imagery interpretation.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/88).

NV-1606-0075

Intelligence Specialist, Class A, Reserve (ISA-RES)

Course Number: J-242-0030.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply the fundamentals of basic imagery intelligence, reconnaissance systems, mission planning, and interpretation of the resulting imagery.

Instruction: Instruction is offered through lectures and extensive student practical exercises. Topics include aerial imagery, mensuration, imagery interpretation and plotting, map reading, report writing, and physical security of imagery interpretation.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/88).

NV-1606-0076

Quartermaster, Class A

Course Number: A-061-0012.

Location: Training Center, Orlando, FL.

Length: 7-8 weeks (214 hours).

Exhibit Dates: 1/90–2/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate electronic navigation equipment; conduct weather observations; determine compass and gyro error; compute tide and tidal current data; keep logs and records; determine ship's position by visual and electronic means; compute times of sunrise, sunset, and twilight; and follow the rules of the road to prevent collision.

Instruction: Lectures and practical exercises cover watchstanding, piloting, charts and publications, magnetic and gyro compasses, dead reckoning, aids to navigation, weather elements and observation, and rules of the road.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in marine navigation and 2 in marine navigation laboratory (10/91).

NV-1606-0077

Operations Specialist

Course Number: J-221-0011.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 14 weeks (560 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Before 6/90 see NV-1606-0060. Upon completion of the course, the student will be able to plot a ship's position, heading, and speed; operate common marine and electronic navigation instruments including surface radar systems; and provide target plotting data to the combat information center based on information received from target-tracking devices.

Instruction: Lectures and practical exercises cover ship navigation, charts, radar operation, navigation plotting, signals, rules of the road, dead reckoning, and coastal navigation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in marine navigation and 2 in marine navigation laboratory (10/91).

NV-1606-0078

SEAL Scuba Diving Supervisor

Course Number: K-431-0048.

Location: Special Warfare Center, San Diego, CA.

Length: 1-2 weeks (61-73 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to plan, coordinate, brief and supervise scuba dives; describe the procedures and safety precautions of scuba dives; conduct pre- and postdive procedures; describe the dangers of the marine environment and have a working knowledge of the treatment for dangerous marine animal and marine environment injuries; correctly report diving accidents and injuries; and examine, diagnose, and treat diving accidents.

Instruction: Lectures, group discussions, group assignments, and written examinations are methods of instruction. This course is equivalent to a divemaster course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in divemaster (3/92).

NV-1606-0079

Diver Second Class

Course Number: *Version 1:* A-433-0022. *Version 2:* A-433-0022.

Location: *Version 1:* Diving and Salvage Training Center, Panama City, FL. *Version 2:* Diving and Salvage Center, Panama City, FL; Mobile Diving and Salvage Unit Two, Little Creek, VA; Submarine Training Center, Pearl Harbor, HI; Amphibious School, San Diego, CA.

Length: *Version 1:* 20 weeks (800 hours). *Version 2:* 13 weeks (520 hours).

Exhibit Dates: *Version 1:* 11/94–Present. *Version 2:* 5/91–10/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform first aid and CPR; apply knowledge of diving physics and use decompression tables; operate a hyperbaric chamber; function as a diver/dive team member for open-circuit scuba operations including maintenance of equipment; dive with shallow water surface-supplied (Mk 20/Aqua Mask) air equipment; dive with deep water surface-supplied (Mk 21/Superlight 17) air equipment; use hydraulic and hand tools safely; perform hull and ship appendage inspections including cleaning; perform underwater cutting, using appropriate techniques and observing safety precautions. *Version 2:* Before 5/91 see NV-1606-0010. Upon completion of the course, the student will be able to perform first aid and CPR; apply knowledge of diving physics and use decompression tables; operate a hyperbaric chamber; function as a diver/dive team member for open-circuit scuba operations including maintenance of equipment; dive with lightweight surface-supplied air equipment; perform underwater cutting, observing appropriate techniques and safety precautions; use hydraulic and hand tools safely; perform as a diver/dive team member using surface-supplied Mk 12 equipment; inspect hulls and search bottoms using scuba.

Instruction: *Version 1:* Lectures, laboratories, written test, tank and open water projects, and performance tests are methods of instruction. *Version 2:* Lectures, laboratories, tank and open water projects, and performance tests are methods of instruction.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in basic scuba, 2 in advanced scuba, 2 in lightweight surface-supplied diving, 2 in helmet/deep surface-supplied diving, 3 in underwater ships husbandry including hull and appendage inspection and cleaning, and 3 in underwater cutting (8/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in lightweight diving (surface supplied), 3 in helmet diving (surface supplied), 3 in advanced scuba, and 3 in underwater cutting (3/92).

NV-1606-0080

1. SUBMARINE SCUBA DIVER
2. SCUBA DIVER

Course Number: *Version 1:* A-433-0056. *Version 2:* A-433-0023.

Location: *Version 1:* Submarine Training Center, Pacific, Pearl Harbor, HI; Diving and Salvage Training Center, Panama City, FL. *Version 2:* Mobile Diving Salvage Unit Two, Little Creek, VA; Diving and Salvage Training Center, Panama City, FL; Submarine Training Center, Pearl Harbor, HI; Amphibious School, San Diego, CA.

Length: *Version 1:* 4 weeks (168 hours). *Version 2:* 5 weeks (208 hours).

Exhibit Dates: *Version 1:* 1/96–Present. *Version 2:* 12/90–12/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to apply knowledge of basic physics, diving medicine, and use decompression tables; function as a basic open circuit scuba diver; and perform underwater hull inspections and security swims. *Version 2:* Before 12/90 see NV-1606-0011. Upon completion of the course, the student will be able to perform CPR; apply diving physiology and physics, including gas laws as they relate to diving; have a working knowledge of decompression diving and use of appropriate dive tables; apply principles of diving medicine, including the recognition of diving injuries and treatment; maintain and repair scuba equipment; and meet the requirements of open-water scuba certification.

Instruction: *Version 1:* Lectures, laboratories, tank, open-water projects, and written performance tests are methods of instruction. . *Version 2:* Lectures and laboratories include open-water and training tower. The US Navy Diving Manual is used throughout along with excellent student guides.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in basic scuba (8/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in open-water scuba (3/92).

NV-1606-0081

PRECISION OPTICAL MEASUREMENT

Course Number: A-670-0044.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5 weeks (109-152 hours).

Exhibit Dates: 1/90–8/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a precision optical measuring technician.

Instruction: Lectures, demonstrations, and hands-on laboratories cover applied mathematics; principles of light/optics; operation of devices such as alignment periscope, telescopic transit square, theodolite, and alignment telescope; and operate and calibrate devices such as bidirectional auto collimator, small angle generator, plane parallel adjustable mirror, optical wedge, surface plate, penta prism, 90 degree prism, and an alignment penta mirror assembly.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in precision optics laboratory (1/93).

NV-1606-0082

1. PRECISION PHYSICAL AND DIMENSIONAL MEASUREMENT
2. PHYSICAL DIMENSIONAL MEASUREMENT AND CALIBRATION

Course Number: *Version 1:* A-670-0043. *Version 2:* A-670-0043.

Location: *Version 1:* Technical Training Unit, Keesler AFB, MS. *Version 2:* Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 8-9 weeks (328 hours). *Version 2:* 7 weeks (280 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform advanced calibration and maintenance techniques on physical measurement equipment at both shore and shipboard facilities, including equipment used for environmental monitoring, under supervision. *Version 2:* Upon completion of the course, the student will be able to use precision measuring equipment in a measurement calibration laboratory under supervision.

Instruction: *Version 1:* Lectures, demonstrations, and laboratory exercises use precision measuring equipment to calibrate linear, angular, temperature, force, mass and weight, density, viscosity and flow, pressure, torque, rotary motion, humidity, and gas analysis. Topics include environmental monitoring procedures, meteorological calibration, problem solving, KNC 3605 thermal unit calibration and alignment, and gauge block calibration. *Version 2:* Lectures, demonstration, and laboratory exercises use precision measuring equipment to calibrate linear, angular, temperature, force, mass and weight, density, viscosity and flow, pressure, torque, rotary motion, humidity, and gas analysis.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in physical meteorology instruments (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in physical metrology (1/93).

NV-1606-0083

VQ/VAQ/VMAQ PILOT
(EA-3B Navigator Electronic Warfare)

Course Number: C-2D-3815.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5 weeks (163 hours).

Exhibit Dates: 1/93–10/97.

Learning Outcomes: Upon completion of the course, the student will be able to visually identify Soviet weapon systems; research publications and present accurate information on specific countries and their warfare capabilities; and prepare briefs for oral presentation based on the student's research. The student will determine threat envelopes from reported signal activity and create an area order of battle based on the collected data.

Instruction: Group-paced lecture/laboratory instruction uses audiovisual equipment and trainers to reinforce material covered in the classroom. Topics covered are electronic warfare concepts, propagation characteristics of the electromagnetic wave, basic radar characteristics, antennas, missile control systems, Soviet history, fleet communications, and electronic warfare jamming theory.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1606-0084

F/A-18 SAFETY EQUIPMENT SJU-S/A EJECTION SEAT ORGANIZATIONAL MAINTENANCE

Course Number: C-602-3867.

Location: Air Maintenance Training Group, Lemoore, CA.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under close supervision, organizational maintenance on an ejection seat, canopy, and emergency escape sequencing of the F/A-18 aircraft.

Instruction: Lectures and practical exercises cover maintenance of the canopy, seat, and emergency escape systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1606-0085

IMAGERY INTERPRETATION

Course Number: K-3A-0954.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 9/94–Present.

Learning Outcomes: Before 9/94 see NV-1606-0074. Upon completion of the course, the student will be able to interpret, plot, and measure features appearing on remotely served imagery, with on emphasis on aerial photographs.

Instruction: Instruction in this course uses lectures, visual aids, extensive practical exercises, and examination and covers image security, interpretation techniques and keys, reconnaissance platforms and sensors, map and chart utilization, and photogrammetry.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in aerial photographic interpretation (9/94).

NV-1606-0086

INTELLIGENCE OFFICER REFRESHER

Course Number: J-3A-0952.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (70-80 hours).

Exhibit Dates: 3/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to discuss recent and current topics in military intelligence.

Instruction: Presented through seminars, the topics include introduction to joint doctrine, marine air-ground task force structure, ground tactics and principles of war, amphibious operation, intelligence preparation, Cruise missile systems, merchant traffic analysis, counterdrug intelligence, regional threats, intelligence information management, and Army and Air Force structure.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in geopolitics of conflict (9/94).

NV-1606-0087

Navy Tactical Command System—Afloat
Operational Intelligence Systems
Afloat

Course Number: J-150-0962.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Before 1/94 see NV-1606-0067. Upon completion of the course, the student will able to operate the various computerized subsystems needed to support intelligence processing aboard ship. The student will be able to operate sophisticated computing equipment to analyze outcomes and maintain an intelligence data base.

Instruction: Lectures, demonstrations, and practical exercises prepare the student for operating an over-the-horizon targeting system, technical receiving equipment, standard displays, and advanced tracking prototypes.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (9/94).

NV-1606-0088

Marine Air-Ground Task Force Advanced
Counterintelligence

Course Number: J-244-2960.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (151 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able describe counterintelligence activities, including coordinating with other service units, planning operations, reviewing progress, and preparing reports for upper-level supervisors.

Instruction: Lectures, case studies, exams, guest lectures, and demonstrations provide the student a broad range of counterintelligence activities.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (9/94).

NV-1606-0089

Expeditionary Warfare Intelligence

Course Number: J-150-2966.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (105 hours).

Exhibit Dates: 2/94–Present.

Learning Outcomes: Upon completion of the course, the student will apply the basics of naval expeditionary force structures, amphibious and carrier battle group mission and capabilities, amphibious joint intelligence center operations, intelligence preparation for the battlefield, collection of resources, management of intelligence architecture, targeting, and contingency planning.

Instruction: Topics presented through lectures and practical exercises cover organization and capabilities of a naval amphibious task force and a Marine air-ground task force, including command and control, planning, intelligence, special operations, mine and coastal warfare, weather, terrain, coastal configuration targeting, counterinsurgency, collection of resources, aerial reconnaissance, and noncombatant evacuation.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (9/94).

NV-1701-0002

Lithium Bromide Air Conditioning Plant
Operator
(Lithium Bromide Air Conditioning)

Course Number: A-720-0028.

Location: Submarine Training Center, New London, Groton, CT; Fleet Ballistic Submarine Training Center, Charleston, SC; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 1-2 weeks (24-60 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To train enlisted personnel to perform basic maintenance on a lithium bromide air conditioning unit.

Instruction: Lectures and practical exercises cover the operation and maintenance of lithium bromide absorption systems. Course includes a study of the construction and operation of components, leak testing, purge system operation, and preventive maintenance.

Credit Recommendation: In the vocational certificate category, 2 semester hours in air conditioning theory and operation (lithium bromide) (11/85).

NV-1701-0004

R-11 Centrifugal 110 Ton Air Conditioning
Combined Maintenance
(110 Ton R11 Centrifugal Air Conditioning
Unit (York))

Course Number: A-652-0111.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Missile Submarine Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train enlisted personnel to operate and perform mechanical maintenance on a centrifugal refrigeration system.

Instruction: Lectures and practical exercises cover the maintenance of a centrifugal refrigeration system. Topics include centrifugal compressor and capacity-control mechanism construction and operation and the maintenance procedures involved in the use of the air-purging system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in mechanical maintenance of a centrifugal refrigeration unit (6/81).

NV-1701-0005

Air Conditioning and Refrigeration Operation
and Maintenance
(Air Conditioning and Refrigeration, Class
C)
(Air Conditioning and Refrigeration, Class
C1)

Course Number: A-720-011; A-720-010; A-720-0010.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 7-8 weeks (280-300 hours).

Exhibit Dates: 1/90–6/92.

Objectives: After 6/92 see NV-1701-0019. To train enlisted personnel to operate, test, maintain, and repair air conditioning and refrigeration equipment and systems.

Instruction: Lectures and practical exercises cover the operation, testing, maintenance, and repair of air conditioning and refrigeration equipment and systems, including refrigeration unit components, accessories, and controls; refrigeration fundamentals; electrical systems in refrigeration; compressors and condensers; air-cooled equipment; water coolers; ice makers; refrigeration and air conditioning plant operations; and ventilation and air purification. Includes basic thermodynamic nomenclature.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic refrigeration and air conditioning and 2 in refrigeration and air conditioning laboratory (3/89).

NV-1701-0008

Aviation Support Equipment Mobile Air
Conditioning Intermediate
Maintenance

Course Number: C-602-3241.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain and operate a mobile air conditioning unit.

Instruction: Lectures and practical exercises cover the maintenance, troubleshooting, and operation of a mobile air conditioning unit, including electrical system analysis, refrigerant analysis, troubleshooting, operational checks, and removal and replacement procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in air conditioning (3/82).

NV-1701-0009

R-114 Air Conditioning System York 150 Ton

Course Number: A-652-0229.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT.

Length: 2 weeks (46 hours).

Exhibit Dates: 1/90–11/95.

Objectives: Upon successful completion of this course, the student will be able to operate and perform required repairs and preventive maintenance on the York 150-ton centrifugal air conditioning plant.

Instruction: This course provides lectures and laboratory instruction in basic refrigeration theory, as well as in the operation of an air conditioning system and its repair to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in air conditioning (11/85).

NV-1701-0010

1. Submarine Ship Stores Refrigeration R-12
Combined Maintenance
2. Submarine Ships Stores Refrigeration R-12 Combined Maintenance

Course Number: *Version 1:* A-652-0204. *Version 2:* A-652-0204.

Location: *Version 1:* Submarine School, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, WA; Trident

Training Facility, Kings Bay, GA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: *Version 1:* 2 weeks (59 hours). *Version 2:* 1 week (45 hours).

Exhibit Dates: *Version 1:* 3/95–Present. *Version 2:* 1/90–2/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate an R-12 refrigeration system and troubleshoot and repair refrigeration system faults under supervision. *Version 2:* Upon completion of the course, the student will be able to operate an R-12 refrigeration system and troubleshoot and repair refrigeration system faults under supervision.

Instruction: *Version 1:* Lectures and laboratory exercises cover the construction, theory of operation, and maintenance of an R-12 refrigeration system. *Version 2:* Lectures and laboratory exercises cover the construction, theory of operation, and maintenance of an R-12 refrigeration system.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in refrigeration technology. The credits listed here do not duplicate those listed for NV-1701-0011 (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in refrigeration technology. The credits listed here do not duplicate those listed for NV-1701-0011 (2/89).

NV-1701-0011

Trident Refrigeration Systems Supervisor

Course Number: A-652-0265.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (44 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and maintain hermetically-sealed refrigeration units and troubleshoot and maintain R-12 refrigeration systems.

Instruction: Lectures and laboratory exercises cover the (advanced) theory of R-12 refrigeration systems and construction, operation, and maintenance of hermetically-sealed refrigeration units.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in refrigeration technology. The credit listed does not duplicate that listed for exhibit NV-1701-0010 (2/89).

NV-1701-0012

R-114 York 200 Ton Air Conditioning Technician

Course Number: A-652-0205.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate R-114 A/C systems, perform preventive maintenance on R-114 A/C systems, and troubleshoot and repair R-114 A/C system faults.

Instruction: Lecture and laboratory exercises cover function, operation, and maintenance of R-114 A/C systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in air conditioning technology laboratory (2/89).

NV-1701-0013

Centrifugal Air Conditioning System Operation and Maintenance

Course Number: A-720-0025.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, lubricate, disassemble, and maintain a centrifugal air conditioning system.

Instruction: Lectures and practical exercises cover the subject matter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in air conditioning and refrigeration (6/94).

NV-1701-0014

E2/C2 Environmental Systems Organizational Maintenance

Course Number: C-602-3472.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (64 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will apply knowledge of an aircraft environmental system.

Instruction: Student uses publications to complete a series of written exercises and progress tests.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/91).

NV-1701-0015

P-3C Air Conditioning, Pressurization, and Utility Systems Organizational Maintenance

Course Number: C-603-3532.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, maintain, and repair utility systems on a specific aircraft.

Instruction: Lectures and practical exercises cover air conditioning controls and instrumentation, basic electricity and temperature control system, pressurization and utilities system, wing anti-ice system, heating system, oxygen system, and windshield washer system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in pressurization systems (7/92).

NV-1701-0016

E-2/C-2 Environmental Systems Integrated Organizational Maintenance

Course Number: C-602-9472.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 2-3 weeks (112 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform routine maintenance, under limited supervision, on air cycle, vapor cycle, and pressurization systems.

Instruction: Lectures and practical exercises cover removal and replacement of vapor and air-cycle air conditioning system, engine and airframe bleed air valve, and pressurization and temperature control. Course also includes classroom instruction on oxygen and fire extinguishing systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft environmental systems (12/92).

NV-1701-0017

F-14D Environmental/Escape Systems Integrated Organizational Maintenance Specialist

Course Number: C-602-9901.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 5-6 weeks (224 hours).

Exhibit Dates: 12/91–6/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform testing and troubleshooting techniques and, under minimum supervision, perform preventive maintenance on aircraft air conditioning systems, aircraft refrigeration systems, and aircraft oxygen systems.

Instruction: Course includes lectures and laboratories on troubleshooting, testing, and servicing of aircraft air cycle air conditioning systems; operational testing and interpreting resultant data of aircraft refrigeration systems; and testing, troubleshooting, and maintaining aircraft oxygen systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft air conditioning servicing and 1 in oxygen systems maintenance (12/92).

NV-1701-0018

E-2C Vapor Cycle System Integrated Organizational Maintenance

Course Number: C-602-9482.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be familiar with the function, operation, and components of the vapor cycle air conditioning system and, under close supervision, will be able to maintain its components.

Instruction: Topics covered in classroom and laboratory include the vapor cycle system, including its components, system operation, servicing, and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in vapor cycle air conditioning systems (12/92).

NV-1701-0019

REFRIGERATION AND AIR CONDITIONING SYSTEMS TECHNICIANS

Course Number: A-720-0010.

Location: Fleet Training Center, Norfolk, VA.

Length: 11 weeks (433 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Before 7/92 see NV-1701-0005. Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair refrigeration and air conditioning equipment and systems.

Instruction: This course provides lecture and laboratory instruction in basic theory, operation, and repair of refrigeration and air conditioning systems, and comprehensive examinations ensure student knowledge and skill in air conditioning and refrigeration systems. Topics covered include basic refrigeration systems and operation and maintenance of hermetic and centrifugal equipment and troubleshooting of walk-in refrigerators, packaged unitary systems, dehydrators, air purification equipment, electrical controls, and reciprocating and centrifugal chillers.

Credit Recommendation: In the vocational certificate category, 1 semester hour in soldering techniques (11/95); in the lower-division baccalaureate/associate degree category, 7 semester hours in air conditioning and refrigeration equipment and 3 in air conditioning and refrigeration laboratory (11/95).

NV-1702-0002

WASHER EXTRACTOR MAINTENANCE, CLASS F1

Course Number: A-690-0017.

Location: Service School Command, San Diego, CA.

Length: 2 weeks (66 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, repair, and maintain the Milnor 60 pound washer extractor, the Dyna washer extractor, and the Cissell steam laundry dryer.

Instruction: Course content includes lectures and practical exercises on electrical and mechanical safety, components, drive systems, motors, braking systems, water systems, and timers and switches used in washer extractors and laundry dryers.

Credit Recommendation: In the vocational certificate category, 1 semester hour in appliance repair (10/92).

NV-1702-0003

AIRCREW SURVIVAL EQUIPMENTMAN INTERMEDIATE MAINTENANCE, CLASS F1
(Advanced Sewing Machine Repair, Class F1)

Course Number: C-602-2029.

Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 3 weeks (115 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, inspect, test, repair, and maintain industrial sewing machines following prescribed regulations in Cal's Handbook of Industrial Sewing Equipment.

Instruction: Course content covers introduction, disassembly and assembly, troubleshooting, timing, adjustment, and preventive maintenance of several models of industrial sewing machines. Methodology includes lectures, laboratory experiences, and knowledge and performance testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic mechanisms (5/97).

NV-1703-0005

INTRODUCTION TO DIESEL ENGINES AND ASSOCIATED SYSTEMS
(Mine Warfare Engineman Basic)
(Engineman Basic)

Course Number: A-652-0038; J-652-0474.

Location: Mine Warfare School, Charleston, SC.

Length: 2-3 weeks (60-90 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train petty officers in diesel engine theory as it relates to the operation and maintenance of diesel engines and associated systems.

Instruction: Lectures and demonstrations cover diesel operation and construction, precision measurements, fuel properties, fuel systems, intake and exhaust systems, and piping and valves. Course includes concepts in the physical sciences and mathematics as they relate to various systems and components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive, heavy equipment, diesel, or mechanical technology (11/81).

NV-1703-0009

MODEL 104 GAS TURBINE GENERATOR SET MAINTENANCE
(Ship's Service Gas Turbine Generator Module (Allison 501) Maintenance, Class C1)

Course Number: A-652-0076.

Location: Service School Command, Great Lakes, IL.

Length: 3-5 weeks (120-200 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To provide specific instruction in gas turbine engine operation, inspection, and maintenance related to the DD-963 class destroyer.

Instruction: Areas of instruction include gas turbine engine operation, construction, cooling, lubrication, trouble identification, inspection, and maintenance; gear reduction; generator operation and control; and use of specific inspection equipment and procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in gas turbine engine inspection, operation, and maintenance (1/82).

NV-1703-0010

AVIATION SUPPORT EQUIPMENT AUTOMATIC TRANSMISSION INTERMEDIATE MAINTENANCE

Course Number: C-602-3236.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train enlisted personnel to operate and repair automatic transmissions in aviation support equipment.

Instruction: Lectures and laboratory exercises cover the operation, troubleshooting, and component repair of automatic transmissions using tools, test equipment, and technical manuals related to particular transmission systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, credit in automotive maintenance on the basis of institutional evaluation (3/82).

NV-1703-0011

GROUND SUPPORT EQUIPMENT GTC-85 INTERMEDIATE MAINTENANCE

Course Number: C-602-3211.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel in repair and maintenance procedures for a ground support GTC-85 turbine engine.

Instruction: Lectures and practical exercises cover the maintenance and overhaul of a turbine engine, including break-down accessories, oil systems, electrical systems, fuel systems, and air systems. Course includes removal and repair of systems and replacement of equipment using manufacturers' maintenance manuals and special tools, while following appropriate safety procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in ground operations equipment maintenance (3/82).

NV-1703-0012

FFG-7 CENTRAL CONTROL STATION OPERATION, CLASS C1

Course Number: A-652-0156.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To provide personnel with the knowledge required to operate, under limited supervision, FFG-7 class ship's central control station equipment.

Instruction: Lectures and practical experience cover the operation of the central control station equipment of a gas turbine unit, including operation of the propulsion control console, the propulsion local operating panel, the electric control console, and the auxiliary control console.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/82).

NV-1703-0013

LM2500 ENGINE CHANGEOUT

Course Number: A-652-0072.

Location: Service School Command, Great Lakes, IL.

Length: 2-3 weeks (80 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To provide personnel with the skills necessary to change out major components of the LM2500 gas turbine engine.

Instruction: Lectures and laboratory exercises cover the change out procedures for components, accessories, and major assemblies of the LM2500 gas turbine.

Credit Recommendation: In the vocational certificate category, 1 semester hour in gas turbine maintenance laboratory (10/83).

NV-1703-0014

AVIATION MACHINIST'S MATE, CLASS A (S-3A), POWER PLANT SYSTEMS

Course Number: C-601-3860.

Location: Air Station, North Island, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide enlisted personnel with a basic knowledge of turbine engine theory, operation, maintenance, and safety.

Learning Outcomes: Upon completion of the course, the student will be able to solve basic math, fluid power, and hydraulic problems; understand basic theory and operation of a turbine engine; select and use proper hand tools associated with inspection and disassembly of turbine engines; and perform documentation and supply logistics duties.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic mathematics, 1 in basic physics, and 1 in basic turbine engine theory (4/85).

NV-1703-0015

AVIATION SUPPORT EQUIPMENT A/S32A-33 AIRCRAFT TOWING TRACTOR INTERMEDIATE MAINTENANCE

Course Number: C-602-3229.

Location: Air Station, Jacksonville, FL; Air Station, North Island, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train enlisted personnel in the operation and maintenance of an aircraft towing tractor.

Learning Outcomes: Upon completion of the course, the student will be able to identify, troubleshoot, and maintain an engine and its associated systems, main and auxiliary hydraulic systems, and the electrical lifting linkage of the A/S-32A-33 aircraft towing tractor.

Credit Recommendation: In the vocational certificate category, 1 semester hour in automotive repair (7/92).

NV-1703-0016

AVIATION SUPPORT EQUIPMENT A/S 32P-16 FIRE FIGHTING TRUCK INTERMEDIATE MAINTENANCE

Course Number: C-602-3242.

Location: Air Station, Jacksonville, FL; Air Station, North Island, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–12/95.

Objectives: To train enlisted personnel in the maintenance, troubleshooting, and repair of a fire fighting truck.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair the electrical system including the master switch and fire fighting system, the hydraulic system including the fire pump drive and assembly, and the fire fighting system including the check and reset valve and L-W pump rating.

Credit Recommendation: In the vocational certificate category, 2 semester hours in automotive repair and maintenance (4/85).

NV-1703-0017

AVIATION SUPPORT EQUIPMENT LHA-1 PALLET TRANSPORTER INTERMEDIATE MAINTENANCE

Course Number: C-602-3239.

Location: Air Station, North Island, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–1/97.

Objectives: To train enlisted personnel to operate, troubleshoot, and repair a pallet transporter.

Learning Outcomes: Upon completion of the course, the student will be able to repair, maintain, and troubleshoot the engine, the hydraulic system, the electrical system, steering and axle system, the brakes, and the auxiliary equipment of the LHA-1 pallet transporter.

Credit Recommendation: In the vocational certificate category, 1 semester hour in automobile repair (4/85).

NV-1703-0018

1. A/S32K-1C/D WEAPONS LOADER INTERMEDIATE MAINTENANCE
2. A/S 32K-1C WEAPONS LOADER INTERMEDIATE MAINTENANCE

Course Number: *Version 1:* C-602-3235. *Version 2:* C-602-3235.

Location: *Version 1:* Air Maintenance Training Group, North Island, CA; Air Maintenance Training Group, Jacksonville, FL. *Version 2:* Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 1-2 weeks (64 hours).

Exhibit Dates: *Version 1:* 3/94–Present. *Version 2:* 1/90–2/94.

Learning Outcomes: *Version 1:* Upon completion of the course the student will be able to troubleshoot, repair and maintain the weapons loader. This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to troubleshoot, repair, and maintain the weapons loader.

Instruction: *Version 1:* Lectures, practical exercises, and examinations cover the use of test equipment, mechanical engine systems, hydraulics, pump systems, control cylinders, brakes, and steering. This version is pending evaluation. *Version 2:* Lectures, practical exercises, and examinations cover the use of test equipment, mechanical engine systems, hydraulics, pump systems, control cylinders, brakes, and steering.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the vocational certificate category, 1 semester hour in automotive repair (7/92).

NV-1703-0019

INTERNAL COMBUSTION ENGINE AND RELATED SYSTEMS INTERMEDIATE MAINTENANCE

Course Number: C-602-3271.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair internal combustion engines and related systems.

Instruction: Lectures, performance exercises, and examinations cover mechanical systems, electrical systems, major components and assemblies, power trains, and chassis of internal combustion engines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive engine maintenance, 3 in automotive power train maintenance, and 3 in automotive electrical systems (7/92).

NV-1703-0020

AERO 47A/A1 WEAPONS LOADER INTERMEDIATE MAINTENANCE

Course Number: C-602-3288.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a shore-based weapons loader using proper documentation procedures.

Instruction: Lectures, performance exercises, and examinations cover the fuel system, electrical system, and hydraulic system of the weapons loader.

Credit Recommendation: In the vocational certificate category, 1 semester hour in automotive repair (7/92).

NV-1704-0004

1. AIR TRAFFIC CONTROLLER
   (Air Traffic Control)
2. AIR TRAFFIC CONTROLLER, CLASS A1
   (Air Traffic Control, Class A)
   (Air Traffic Controller, Class A)
   (Air Controlman, Class A)

Course Number: *Version 1:* C-222-2010. *Version 2:* C-222-2010.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 14 weeks (560 hours). *Version 2:* 10-16 weeks (400-640 hours).

Exhibit Dates: *Version 1:* 7/94–Present. *Version 2:* 1/90–6/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to fulfill apprentice-level technical requirement for an air traffic controller eventually leading to FAA certification in control tower operations. *Version 2:* To qualify enlisted personnel for FAA certification in control tower operations.

Instruction: *Version 1:* Lectures and practical exercises in basic air navigation and navigational aids; aviation meteorology; airport traffic control; and air traffic rules and regulations, communication procedures, and radar use. *Version 2:* Lectures and practical exercises cover basic air navigation and navigational aids; aviation meteorology; airport traffic control; and air traffic rules and regulations, communication procedures, and radar use.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in national airspace system, 2 in aviation meteorology, 2 in federal aviation regulations, and 2 in navigation principles (1/96); in the upper-division baccalaureate category, 6 semester hours in air traffic control (1/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control or 5 semester hours in private pilot ground school (6/92).

NV-1704-0006

SH-3 Automatic Stabilization Equipment
Organizational Maintenance

Course Number: C-602-3399.

Location: Air Station, Jacksonville, FL; Air Station, North Island, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide personnel with sufficient knowledge of the theory of operation of a SH-3 helicopter's automatic stabilization equipment to perform, under close supervision, organizational maintenance.

Instruction: Lectures and practical exercises cover the operation of the SH-3 helicopter's stabilization equipment, including the operation, testing, and troubleshooting of the power distribution system and the operation, testing, and troubleshooting of the yaw, pitch, and roll systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in helicopter maintenance (3/82).

NV-1704-0013

A-7E Hydraulic, Pneumatic and Airframe
Systems Organizational Maintenance
(A-7E Hydraulic and Pneumatic Systems
Organizational Maintenance)

Course Number: C-602-3793.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel in the operation, maintenance, and servicing procedures for A-7E aircraft control systems.

Instruction: Course includes practical experience in troubleshooting, maintenance, and servicing of structures and hydraulic, pneumatic, primary flight control, and auxiliary systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulic and pneumatic systems laboratory (3/82).

NV-1704-0016

TF30-P-8/408 Engine Intermediate
Maintenance/Complete Engine Repair
(TF30-P-8 Intermediate Maintenance/Complete Engine Repair)

Course Number: C-601-3132.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide maintenance personnel with instruction in TF30-P-8/408 aircraft engine maintenance.

Instruction: Lectures and practical exercises cover TF30-P-8/408 aircraft engine maintenance, including engine component inspection and repair; engine systems operation; and engine assembly, disassembly, and testing procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in turbine engine laboratory (3/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in turbine engine laboratory (3/82).

NV-1704-0019

P-3 T56-A-10/14 Engine and Related Systems
Organizational Maintenance
(P-3 T-56-A-14 Engine and Related Systems
Maintenance)

Course Number: C-601-3533.

Location: Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 4-5 weeks (158-200 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel to repair P-3 aircraft power plants and related systems.

Instruction: Lectures and practical exercises cover P-3 aircraft power plant and related system maintenance, including T56-A-14 power plant system maintenance and service, engine diagnosis and troubleshooting, jet engine theory, test equipment operation, and propeller and related systems operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in general turboshaft engines and related systems maintenance (7/81).

NV-1704-0028

Ground Support Equipment Tow Tractor
Charging, Starting and Ignition
Systems Intermediate Maintenance

Course Number: C-602-3238.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 3 weeks (104 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide training in maintenance, troubleshooting, and repair of internal combustion engine starting, charging, and ignition systems.

Instruction: Lectures and practical exercises cover the maintenance and repair of internal combustion engine charging, starting, and ignition systems, including battery analysis and basic theory, analysis, troubleshooting, and repair of generators, regulators, alternators, starters, and ignition systems using special test equipment such as a dwell meter, growler, and oscilloscope.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in automotive or aircraft electrical systems and 1 in automotive or aircraft electrical laboratory for non—electrical engineering students (3/82).

NV-1704-0031

SH-3 Electrical Components Intermediate
Maintenance

Course Number: C-602-3398.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide aviation electricians with the theory of operation and the maintenance procedures for the SH-3 helicopter electrical system and the automatic stabilization equipment at the intermediate repair level.

Instruction: Lectures and practical exercises cover the operation and maintenance of a helicopter electrical system and automatic stabilization system, including the voltage regulator supervisory panel, temperature controller, loading gear controls, altitude demodulator, ASE circuitry, and cyclic coupler analysis and adjustment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in helicopter system maintenance for non—electrical engineering students (3/82).

NV-1704-0046

Douglas Model D-704 and Sargent-Fletcher
Model 31-300 Air Refueling Stores
Organizational Maintenance

Course Number: C-602-3013.

Location: Air Maintenance Training Detachment, Beaufort, SC; Air Maintenance Training Detachment, El Toro, CA; Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA; Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain and repair Douglas and Sargent-Fletcher air refueling stores.

Instruction: Lectures and practical exercises cover inspection, disassembly, cleaning, repair, and reassembly of the Douglas Model D-704 and Sargent-Fletcher Model 31-300 air refueling stores systems, components, and associated equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, credit in air refueling stores maintenance on the basis of institutional evaluation (3/82).

NV-1704-0047

SH-3 Airframes and Hydraulic Systems
Organizational Maintenance

Course Number: C-602-3396.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 3 weeks (109-144 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain and repair SH-3 helicopter airframe and hydraulic systems.

Instruction: Lectures and practical exercises cover removal, replacement, adjustment, and testing of components and troubleshooting and repair of airframe and hydraulic systems. Course includes trimming and alignment of track blades.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulics, assembly, and rigging (3/82).

NV-1704-0048

P-3 Flight Engineers System

(P-3 Flight Engineer System, No. 6)

Course Number: C-050-3531.

Location: Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Patuxent River, MD; Air Maintenance Training Detachment, Moffett Field, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–10/90.

Objectives: After 10/90 see NV-1704-0379. To train flight crews in P-3 system and subsystem operations and inflight maintenance.

Instruction: Lectures and practical exercises cover aircraft and electrical systems; power plant and related systems; hydraulic, structure, and pressurization systems; radio and navigation aids; autopilot; and emergency systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in engineering (7/81).

NV-1704-0072

P-3 Electrical Components Intermediate Maintenance
(P-3 Electrical Systems Intermediate Maintenance)

Course Number: C-102-3560.

Location: Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–4/90.

Objectives: To train enlisted personnel to maintain, operate, and service P-3 aircraft electrical systems at the intermediate level.

Instruction: Lectures and practical exercises cover the maintenance of P-3 aircraft electrical systems, including lighting, the propeller synchrophasing system, generators, voltage regulators, signal light controls, AOA and TAS indicators, and troubleshooting with an oscilloscope.

Credit Recommendation: In the vocational certificate category, 3 semester hours in avionics (7/81); in the lower-division baccalaureate/associate degree category, 1 semester hour in avionics technology or electronics technology (7/81).

NV-1704-0079

A-7A/B Electrical and Instrument Systems Organizational Maintenance
(A-7 Electrical and Instrument Systems Organizational Maintenance)

Course Number: C-602-3781.

Location: Air Maintenance Training Detachment, Cecil Field, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–2/92.

Objectives: To train maintenance personnel to maintain and operate the electrical and instrument systems of the A-7 aircraft.

Instruction: Lectures and practical exercises cover the maintenance and operation of the electrical and instrument systems of the A-7 aircraft, including power supply and distribution, engine and related circuitry, aircraft fuel circuits, electrically controlled hydraulic systems, lighting circuits, approach-attitude indication and compensation, air data computer, and instrumentation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aviation electricity and 1 in electrical laboratory for non—electrical engineering students (3/82).

NV-1704-0080

A-7E Electrical and Instrument Systems Organizational Maintenance

Course Number: C-602-3791.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to operate and maintain the electrical and instrument systems of the A-7E aircraft.

Instruction: Lectures cover aircraft power distribution and electrical power supplies, aircraft instrument and lighting systems, electrohydraulic and utility systems, and power plant related systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/82).

NV-1704-0085

A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance
(A-6A Environmental, Escape, and Survival Systems Organizational Maintenance)

Course Number: C-602-3763.

Location: Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3-4 weeks (120-136 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train maintenance personnel to operate and maintain the environmental, escape, and survival systems of the A-6A aircraft.

Instruction: Lectures and practical exercises cover general aircraft familiarization; inspections, trouble shooting procedures, and maintenance of escape and survival systems; environmental control systems and oxygen systems; and use of special tools and ground support equipment.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (10/92).

NV-1704-0109

Aviation Support Equipment GTCP-100 and Enclosures Intermediate Maintenance
(Aviation Support Equipment GTCP-100 Engine Intermediate Maintenance)

Course Number: C-602-3212.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 2-3 weeks (80-120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train aviation support technicians to maintain GTCP-100 engines.

Instruction: Lectures and practical exercises cover GTCP-100 engine maintenance, including engine description, cold-section theory, hot-section theory, lubrication system, electrical system, fuel system, air control system, and test equipment operation. Course includes disassembly, inspection, and repair of the GTCP-100 engine.

Credit Recommendation: In the vocational certificate category, 1 semester hour in ground operational equipment (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in electricity/electrical laboratory (3/82).

NV-1704-0114

SH-3 Electrical Systems Organizational Maintenance
(SH-3A/D Electrical Systems Organizational Maintenance)

Course Number: C-602-3397.

Location: Air Maintenance Training Detachment, Imperial Beach, CA; Air Maintenance Training Detachment, Quonset Point, RI; Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 4-5 weeks (144-160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain the electrical systems of SH-3 helicopters.

Instruction: Lectures and practical exercises cover the maintenance and repair of the electrical systems of SH-3 helicopters, including power supply system, power plant/main gearbox and related systems, miscellaneous and utility systems, rotor-actuating systems, fuselage fuel system, vertical-gyro operation, hydraulic systems, and automatic bladefold system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electricity and electrical laboratory (3/82).

NV-1704-0123

T-41-A-2 Engine Intermediate Maintenance/Complete Engine Repair
(TF41-A-2 Engine Intermediate Maintenance/Complete Engine Repair)

Course Number: C-601-3136.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train fleet maintenance personnel to maintain and repair a specific engine.

Instruction: Lectures and practical exercises in TF41-A-2 engine intermediate maintenance, including engine familiarization and systems and horizontal maintenance; vertical engine disassembly; inspection, disassembly, and assembly of subassemblies; and vertical engine assembly, final test, and preparation for service and storage.

Credit Recommendation: In the vocational certificate category, 6 semester hours in intermediate engine maintenance (3/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in intermediate engine maintenance (3/82).

NV-1704-0128

Aviation Structural Mechanic (Hydraulic), Class A1
(Aviation Structural Mechanic H (Hydraulics), Class A)

Course Number: C-602-2017.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 7-10 weeks (280-400 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To train maintenance technicians to repair aircraft hydraulic structural systems.

Instruction: Lectures and practical exercises cover aircraft hydraulic structural systems repair, including hydraulic principles, tubes and fittings, flexible hoses and fittings, power system components, brakes, struts, shim mypers, valves, actuators, and publications and forms.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in hydraulics structural repair (3/90).

NV-1704-0132

Aviation Structural Mechanic (Structures), Class A1

(Aviation Structural Mechanic S (Structures), Class A)

Course Number: C-603-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 8-11 weeks (320-368 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To train enlisted Navy and Marine Corps personnel with previous technical experience to perform as aviation structural mechanics (structures), third class.

Instruction: Lectures and practical exercises cover the duties of aviation structural mechanic (structures), third class, including fundamentals, aircraft structural repair, welding, nonmetallic materials, airframes and operational maintenance, and aircraft sheet metal.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft structures shop (4/92).

NV-1704-0135

A-7B/TA-7C Power Plant and Related Systems Organizational Maintenance

(A-7A/B TF30-P-6/408 Power Plants and Related Systems Organizational Maintenance)

(A-7A/B Power Plant and Related Systems Organizational Maintenance)

Course Number: C-601-3781.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 2 weeks (72-80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train experienced maintenance personnel in the maintenance, operation, and servicing of A-7A/B power plants and related systems.

Instruction: Lectures and practical exercises cover A-7A/B power plants and related systems organizational maintenance, including aircraft fuel systems, engine construction and systems, and propulsion system maintenance.

Credit Recommendation: In the vocational certificate category, 2 semester hours in power plant systems maintenance (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in power plant systems maintenance (3/82).

NV-1704-0139

SH-3 Power Plants and Related Systems Organizational Maintenance

(SH-3D/H Power Plants and Related Systems Organizational Maintenance)

Course Number: C-601-3399.

Location: Air Maintenance Training Detachment, Imperial Beach, CA; Air Maintenance Training Detachment, Quonset Point, RI; Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, North Island, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train maintenance personnel to maintain SH-3D and SH-3H aircraft power plants and related systems, including scheduled and unscheduled inspections; system servicing, repair, troubleshooting, and schematic analysis; and specific support equipment.

Instruction: Lectures and practical exercises cover maintenance of SH-3D and SH-3H aircraft power plants and related systems. Topics include general information and theory of helicopter flight, power plant systems, rotors and related systems, inspections, and functional testing.

Credit Recommendation: In the vocational certificate category, 2 semester hours in power plant organizational maintenance (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in power plant organizational maintenance (4/85).

NV-1704-0140

A-7E Power Plant and Related Systems Organizational Maintenance

Course Number: C-601-3782.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 3 weeks (103 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train enlisted personnel to maintain and repair the A-7E power plant and related systems.

Instruction: Lectures and practical exercises cover the maintenance, operation, and servicing of the A-7E power plant and related systems and use of tools and special maintenance and test equipment related to organizational maintenance, including aircraft fuel system, engine description and systems, propulsion system maintenance, operating maintenance, and practical training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in power plant organizational maintenance (3/82).

NV-1704-0173

A-7E Armament System Organizational Maintenance

Course Number: C-646-3787.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to operate and maintain the A-7E armament system at the organizational level.

Instruction: Lectures and practical exercises cover the maintenance and operation of the A-7E armament system. Course includes weapons release stations, release and control systems, systems checks and circuit analysis, use of specific test equipment, and troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electrical or electronic systems (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical or electronic systems (3/82).

NV-1704-0190

A-7A/B Structures, Hydraulics, and Pneumatic Systems Maintenance

(A-7A/B Hydraulic and Pneumatic Systems Organizational Maintenance)

Course Number: C-602-3785.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain and service A-7A/B structures and hydraulic, pneumatic, primary, and auxiliary flight control systems.

Instruction: Lectures and practical exercises cover the maintenance and servicing of A-7A/B structures and hydraulic, pneumatic, primary, and auxiliary flight control systems. Course includes hydraulic and pneumatic principles, fuel cells, and hydraulic power control.

Credit Recommendation: In the vocational certificate category, 4 semester hours in hydraulic and pneumatic laboratory (3/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulic and pneumatic laboratory (3/82).

NV-1704-0229

AN/AVM-11 (V) Head Up Display Test Set Intermediate Maintenance (A-7E)

Course Number: C-150-3785; C-104-3784.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 12-13 weeks (480-520 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide instruction in the calibration, troubleshooting, repair and maintenance of a specific electronic test set.

Instruction: Lectures and practical exercises cover troubleshooting, circuit analysis and repair, maintenance, and calibration of the AN/AVM-11(V) HUD test set. Instruction covers power supply, magnetic tape unit, command bus and data transmission, display control, and specific circuit troubleshooting analysis.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic maintenance and 3 in electronic maintenance laboratory (3/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in electronic laboratory troubleshooting and 1 in electronic troubleshooting theory for non—electrical engineering majors (3/82).

NV-1704-0242

EA-6B Electrical Systems Organizational Maintenance

Course Number: C-602-3771.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (128 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To provide trained personnel with instruction in the theory, operation, and maintenance of aviation electrical systems.

Instruction: Lectures and laboratory assignments cover electrical, navigation, and environmental systems, including automatic flight control, fuel, and auxiliary systems.

Credit Recommendation: In the vocational certificate category, 6 semester hours in aircraft maintenance (7/80); in the lower-division baccalaureate/associate degree category, 6 semester hours in aviation technology (7/80).

NV-1704-0244

Terminal Radar Approach Control, Class C1
(Radar Air Traffic Control Facility Operations, Class C1)

Course Number: C-222-2011.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 6 weeks (240-276 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To train air traffic control personnel and radar personnel in the use of radar equipment for instrument and visual approaches and departures.

Instruction: Lectures, laboratories, and operational exercises cover radar air traffic control, including simulated surveillance control, instrument approach and departure systems, and operation of complex computer data terminals and displays presenting information in graphic form.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in air traffic control (9/89).

NV-1704-0245

Carrier Air Traffic Control Center Operations, Class C1

Course Number: C-222-2012.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 5-6 weeks (205-236 hours).

Exhibit Dates: 1/90–3/94.

Objectives: To train personnel in air traffic control procedures aboard aircraft carriers.

Instruction: Lectures and practical exercises cover specialized air traffic control systems used aboard aircraft carriers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in military science (9/89).

NV-1704-0247

Submarine 3000 PSI Hydraulics Combined Maintenance

Course Number: A-652-0103.

Location: Submarine Base, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train enlisted personnel to operate, service, and maintain hydraulic systems.

Instruction: Lectures and practical demonstrations cover the malfunction analysis and maintenance of hydraulic systems, including description and interfacing of components, theory of operation, and maintenance and servicing of hydraulic systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in mechanical or aviation technology (6/81).

NV-1704-0248

54H60-77 Propeller Intermediate Maintenance

Course Number: C-602-3536.

Location: Air Station, Jacksonville, FL; Air Station, Moffett Field, CA; Air Station, Patuxent River, MD.

Length: 2-3 weeks (60-104 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide maintenance personnel with the knowledge and skills necessary to perform maintenance on the Hamilton Standard model 54H60-77 propeller and propeller controls.

Instruction: Lectures and practical exercises cover inspection, troubleshooting, and test procedures for the Hamilton Standard model 54H60-77 propeller, including disassembly, inspection, cleaning, and reassembly of the propeller and propeller controls.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in maintenance and repair of hydromatic propellers (7/92).

NV-1704-0249

Aviation Machinist's Mate, Class A, (A7) Power Plant System

Course Number: C-601-3153.

Location: Air Station, Lemoore, CA; Air Station, Cecil Field, FL.

Length: 3 weeks (116 hours).

Exhibit Dates: 1/90–3/92.

Objectives: Enlisted personnel are introduced to basic aviation maintenance and safety.

Instruction: This introductory course familiarizes newly indoctrinated personnel to basic math and physics; aircraft nomenclature and theory of flight; theory of jet propulsion and factors affecting thrust; aircraft hardware; basic hand tools; fuels, lube, and hydraulic fluid; aircraft corrosion, preservation, and depreservation; gas turbine power plant fundamentals; and the Naval Aviation Maintenance Program.

Credit Recommendation: In the vocational certificate category, 1 semester hour in introduction to aviation maintenance (3/82).

NV-1704-0250

A-7E Communication, Navigation, Identification, and Countermeasures Organizational Maintenance

Course Number: C-102-3783.

Location: Air Station, Lemoore, CA; Air Station, Cecil Field, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide experienced aviation electronics technicians with training in the maintenance of the communication, navigation, identification, and countermeasures systems utilized in an A-7E aircraft.

Instruction: Lectures cover the operation, maintenance, and repair of an A-7E aircraft navigation, communication, and identification system, including, a specific UHF communication set (AN/ARC-159), a navigation set (AN/ARN-52), a radar altimeter set (AN/APN-194), a radar beacon and transponder set, and electronic countermeasures equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in aviation electronics maintenance (3/82).

NV-1704-0251

A-7A/B AN/APQ-116 Radar Set Organizational Maintenance

Course Number: C-104-3781.

Location: Air Station, Cecil Field, FL.

Length: 4 weeks (152 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide maintenance personnel with instruction in the theory of operation and maintenance procedures of the radar set AN/APQ-116.

Instruction: Lectures include theory of operation and maintenance procedures for the AN/APQ-116 radar set. Practical exercises in the alignment and testing of the AN/APQ-116 set include the antenna drive system, the power supply/programmer, the receiver/transmitter, and the command computer.

Credit Recommendation: In the vocational certificate category, 1 semester hour in aviation electronics laboratory (3/82).

NV-1704-0252

A-7E Integrated Weapons Systems Technician Organizational Level Maintenance

Course Number: C-102-3795.

Location: Air Station, Lemoore, CA; Air Station, Cecil Field, FL.

Length: 6 weeks (220 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel in the operation, maintenance, troubleshooting, and testing of an A-7E aircraft integrated weapons system.

Instruction: Lectures and practical experience cover the operation and maintenance of the A-7E aircraft integrated weapon system, including block diagram analysis, equipment testing, and troubleshooting and adjusting a tactical computer system, an inertial navigation system, and several onboard radar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation electronics for non—electrical engineering students (3/82).

NV-1704-0253

AN/AVQ-7A/B Head Up Display Set Intermediate Maintenance

Course Number: C-104-3783.

Location: Air Station, Cecil Field, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide maintenance personnel with training in the maintenance and repair of a head up display set.

Instruction: Lectures cover the theory, operation, and maintenance of a head up display set including the utilization of computer-controlled diagnostic procedures.

Credit Recommendation: In the vocational certificate category, 2 semester hours in aviation electronics maintenance laboratory (3/82).

NV-1704-0254

A-7E Weapons System Specialist
Organizational Maintenance

Course Number: C-102-3799.
Location: Air Station, Lemoore, CA; Air Station, Cecil Field, FL.
Length: 6 weeks (240 hours).
Exhibit Dates: 1/90–3/92.
Objectives: To train electronic technicians in the operation and maintenance of a specific integrated weapon system for the A-7E aircraft.
Instruction: Lectures and laboratory exercises cover the operation and maintenance of the A-7E aircraft integrated weapon system, including block diagram analysis, equipment testing, and troubleshooting and adjusting sensory input systems, output/display systems, inertial navigation systems, and special weapons systems.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic circuits theory for non—electrical engineering majors (3/82).

NV-1704-0255

Aviation Support Equipment Cryogenic
Intermediate Maintenance

Course Number: C-602-3240.
Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.
Length: 2 weeks (80 hours).
Exhibit Dates: 1/90–Present.
Objectives: To train maintenance personnel to service liquid and gaseous oxygen portable servicing trailers in accordance with applicable publications.
Instruction: Lectures and practical exercises cover the troubleshooting, servicing, and operation of an oxygen pressure regulator. Also included is servicing oxygen and nitrogen units (trailer), handling of liquid oxygen, and using the proper tools, test equipment, and publications to service the equipment.
Credit Recommendation: In the vocational certificate category, 1 semester hour in aircraft servicing (7/92).

NV-1704-0257

Denison Electrical and Electronics Control
Maintenance and Controls for Logic
Elevators

Course Number: A-690-0029.
Location: Technical Training Center, Treasure Island, San Francisco, CA.
Length: 5 weeks (200 hours).
Exhibit Dates: 1/90–Present.
Learning Outcomes: Upon completion of the course, the student will be able to analyze simple series/parallel circuits using Ohm's and Kirchhoff's laws; troubleshoot the Cutler Hammer Logic Control Elevator System down to the circuit board level; and test, troubleshoot and make repairs on Denison hydraulic systems in accordance with standard Navy procedures.
Instruction: Lectures and practical exercises cover basic electricity, solid state devices, electronic circuitry, hydraulic theory and maintenance, and troubleshooting of a specific piece of equipment.
Credit Recommendation: In the vocational certificate category, 6 semester hours in industrial technology laboratory (8/89).

NV-1704-0259

ASROC Weapons Handling System
Maintenance

Course Number: A-121-0490.
Location: Service School Command, Great Lakes, IL.
Length: 8 weeks (320 hours).
Exhibit Dates: 1/90–6/93.
Objectives: To train personnel in the maintenance of the ASROC weapons handling system.
Instruction: Lectures and practical exercises cover the operation and maintenance of power distribution systems, control and firing circuits, power drives, amplifiers, mechanical linkages, and hydraulic systems.
Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-1704-0260

FFG-7 Engineering System Maintenance
Management, Mechanical, Class C1

Course Number: A-652-0153.
Location: Service School Command, Great Lakes, IL.
Length: 6 weeks (240 hours).
Exhibit Dates: 1/90–6/91.
Objectives: To train senior enlisted personnel to manage the mechanical systems of the engineering plant on a FFG-7 class ship.
Instruction: Lectures and practical exercises cover to the level of maintenance and responsibility of modular change out, piece part repair, preventive and corrective maintenance, and progressive overhaul of gas turbine power plants.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in power plant management (1/82).

NV-1704-0261

FFG-7 Fuel Systems, Mechanical, Class C1

Course Number: A-652-0165.
Location: Service School Command, Great Lakes, IL.
Length: 3 weeks (120 hours).
Exhibit Dates: 1/90–6/91.
Objectives: To provide knowledge and skills necessary to operate and maintain the FFG-7 class fuel system and the JP-5 subsystem.
Learning Outcomes: Students will be able to perform required onboard testing of fuels and main propulsion lubricants; identify and comply with off-ship testing requirements and procedures for submission of fuel and oil samples; perform administrative duties relating to safe handling, storage, and testing of fuels; and identify and comply with environmental directives and regulations concerning the overboard discharge of oil waste contaminants.
Credit Recommendation: In the vocational certificate category, 3 semester hours in fuel and lubricant handling systems (1/82).

NV-1704-0262

Engineering Systems Maintenance
Management
(FFG-7 Introduction to Engineering Maintenance Management, Class C1)

Course Number: A-652-0152.
Location: Service School Command, Great Lakes, IL.
Length: 3 weeks (105-120 hours).
Exhibit Dates: 1/90–10/91.
Objectives: After 10/91 see NV-1732-0022. To provide skills necessary to understand and monitor power plant operations.
Instruction: Lectures and practical exercises cover monitoring the operation of a power plant. Included are the use of technical manuals, maintenance concepts of gas turbine systems, support systems, diesel generator systems, power distribution and conversion equipment, air conditioning and refrigeration systems, seawater-freshwater systems, fuel systems, compressed air systems, mechanical handling systems, and pollution control systems.
Credit Recommendation: In the vocational certificate category, 3 semester hours in basic power plant operation (1/86).

NV-1704-0263

Propulsion Engineering Basics, Class AP

Course Number: A-651-0010.
Location: Service School Command, Great Lakes, IL.
Length: 4 weeks (176 hours).
Exhibit Dates: 1/90–6/90.
Objectives: To train personnel in basic propulsion auxiliary equipment.
Instruction: Lectures and practical exercises cover basic propulsion engineering including maintenance and introduction to auxiliary equipment such as pumps, heat exchangers, bearings, centrifuges, air compressors, valves, power transfer equipment, and measuring devices. Lectures and practical exercises also cover lubrication systems, fire fighting equipment, and proper watchstanding procedures.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in power plant auxiliary equipment, 1 in equipment maintenance, and 1 in power plant operation laboratory (10/83).

NV-1704-0264

Basic Hydraulic Systems and Components

Course Number: K-652-2146.
Location: Fleet Training Center, San Diego, CA.
Length: 3 weeks (90 hours).
Exhibit Dates: 1/90–5/92.
Objectives: After 3/95 see NV-1704-0419. To train personnel in the basic theory of hydraulic systems and components.
Instruction: Lectures and practical exercises cover the basic theory of static hydraulic systems and components, including basic static fluid physics; reservoirs; filters; strainers; control valves; accumulators; packing seals; positive, nonpositive, and variable displacement pumps; and hydraulic system troubleshooting.
Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery hydraulics (5/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulics (fluid statics) (5/82).

NV-1704-0265

DD-963 Auxiliary Systems Technician

Course Number: K-652-2167.

Location: Fleet Training Center, San Diego, CA.

Length: 6 weeks (190 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in the operation and maintenance of shipboard auxiliary systems.

Instruction: Classroom instruction and practical exercises cover the operation and maintenance of shipboard auxiliary systems, including submerged tube and flash type distilling plants for making fresh water, water testing and treatment, salinity alarms, thermodynamic nomenclature, hydraulic systems, modified vacuum incinerator sewage disposal system, and vibration and noise analysis for preventive maintenance.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery hydraulics and 2 in machinery maintenance (5/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulics (fluid statics), 1 in mechanical systems laboratory or, in lieu of the above, 3 semester hours in marine auxiliary systems (5/82).

NV-1704-0267

DD-963 Engineering Department Division Officer
(DD-963 Main Propulsion Assistant)

Course Number: A-4H-0055.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 10 weeks (380 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To provide the engineering division officer with a knowledge of the engineering systems installed in the DD-963 class destroyer.

Instruction: The course emphasizes the gas turbine main propulsion, electrical, and auxiliary systems as well as the administrative and management programs in effect on the DD-963. Main topic areas include the marine gas turbine and its power train, the gas turbine generator and electric systems, auxiliary systems, and the control systems. Extensive casualty control training is done in the propulsion plant trainer.

Credit Recommendation: In the vocational certificate category, 4 semester hours in gas turbine systems (11/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in gas turbine systems, 2 in maintenance management, and 2 in marine engineering systems laboratory (11/82).

NV-1704-0268

FFG-7 Engineer Division Officer
(FFG-7 Main Propulsion Assistant)

Course Number: A-4H-0058.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 5 weeks (198 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To provide the engineering division officer with a knowledge of the engineering systems installed in the FFG-7 class frigate.

Instruction: The course emphasizes the operation and maintenance of gas turbine main propulsion and electrical and auxiliary systems found on the FFG-7 ship. Main topic areas include the marine gas turbine and its power train, the diesel generator and electrical systems, the auxiliary systems, and the control systems. Extensive casualty control training is provided in the propulsion plant trainer.

Credit Recommendation: In the vocational certificate category, 4 semester hours in gas turbine systems (11/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in gas turbine systems, 2 in maintenance management, and 2 in marine engineering systems laboratory (11/82).

NV-1704-0269

Basic Hydraulics

Course Number: A-652-0164.

Location: Service School Command, Great Lakes, IL.

Length: 2-4 weeks (80-145 hours).

Exhibit Dates: 1/90–12/91.

Objectives: After 12/91 see NV-1704-0390. To train personnel in the operation and maintenance of hydraulic systems on the FFG-7 class ships.

Instruction: Lectures and practical exercises cover the basic theory of static hydraulic systems and components, including basic static fluid physics; reservoirs; filters; strainers; control valves; accumulators; packing seals; positive, nonpositive, and variable displacement pumps; and hydraulic system troubleshooting.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery hydraulics (1/86); in the lower-division baccalaureate/associate degree category, 1 semester hour in hydraulics (fluid statics) (1/86).

NV-1704-0270

FFG-7 Auxiliary Mechanical Subsystem Technician

Course Number: A-652-0233.

Location: Service School Command, Great Lakes, IL.

Length: 14 weeks (560 hours).

Exhibit Dates: 1/90–10/91.

Objectives: To train personnel to operate and perform corrective and preventive maintenance on mechanical auxiliary subsystem components installed on a FFG-7 ship.

Instruction: This is a pipeline course consisting of several courses, including NV-1715-1073, NV-1704-0269, and NV-1704-0262.

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (10/87).

NV-1704-0271

FFG-7 Auxiliary Mechanical System Technician

Course Number: A-652-0159.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–10/93.

Objectives: To train enginemen to operate and maintain certain auxiliary mechanical systems.

Instruction: Lectures and practical exercises provide the knowledge and skills necessary to operate and maintain the mechanical components of the oil waste separator, the pallet elevator, and auxiliary propulsion devices.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/83).

NV-1704-0272

Fundamental Hydraulic Component Maintenance

Course Number: J-651-0450.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train personnel in the basic theory of hydraulic systems and components.

Instruction: Lectures and practical exercises cover the basic theory of static hydraulic systems and components, including basic static fluid physics; reservoirs; filters; strainers; control valves; accumulators; packing seals; positive, nonpositive, and variable displacement pumps; and hydraulic system troubleshooting.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery hydraulics (3/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulics (fluid statics) (3/89).

NV-1704-0273

UH-1N Electrical/Instrument Systems Organizational Maintenance

Course Number: D-602-2050.

Location: Helicopter Combat Support Squadron, Pensacola, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/94.

Objectives: To train enlisted personnel in the maintenance and repair of the UH-1N helicopter electrical and instrument systems.

Instruction: Instruction covers DC power distribution, AC power systems, batteries, wiring diagrams, and warning circuits.

Credit Recommendation: In the vocational certificate category, 2 semester hours in aircraft electrical maintenance (3/84); in the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft electrical maintenance (3/84).

NV-1704-0274

UH-1N Communication/Navigation Systems Organizational Maintenance

Course Number: D-102-2020.

Location: Helicopter Combat Support Squadron, Pensacola, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/94.

Objectives: To train fleet maintenance personnel to perform maintenance on communications and navigation systems.

Learning Outcomes: Upon completion of the course, the student will be able to install, operate, troubleshoot, and adjust an avionics system aboard the UH-1N, including ICS, VHF-FM, HF, UHF, TACAN, ADF, IFF, and a radar altimeter.

Credit Recommendation: In the vocational certificate category, 2 semester hours in avionics equipment repair (3/84); in the lower-division baccalaureate/associate degree category, 1 semester hour in avionics (3/84).

NV-1704-0275

Trident Countermeasures O/M

Course Number: A-123-0179.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3 weeks (104 hours).
Exhibit Dates: 1/90–8/94.

Objectives: To prepare students to operate and maintain specialized electromechanical and hydraulic systems.

Instruction: Lectures and practical exercises cover the operation and maintenance of a countermeasures system, including applications of electromechanical, pneumatic, and fluid equipment to a marine vessel simulator.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electromechanical and hydraulic system applications (8/84); in the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical and fluid equipment laboratory (8/84).

NV-1704-0276

Trident Defensive Weapons Ordnance Subsystem O/M

Course Number: A-123-0178.
Location: Trident Training Facility, Bangor, Bremerton, WA.
Length: 5 weeks (184 hours).
Exhibit Dates: 1/90–7/94.

Objectives: After 7/95 see NV-1704-0427. To prepare students to operate and maintain torpedo and torpedo handling equipment.

Instruction: Lectures and practical exercises cover torpedo system operation, including applications of mechanical, pneumatic, and fluid equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electromechanical systems applications (8/84); in the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical and fluid system applications laboratory (8/84).

NV-1704-0278

EC-130 Airframe and Hydraulic Systems Maintenance

Course Number: D-602-0481.
Location: Air Station, Patuxent River, MD.
Length: 5 weeks (200 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To provide personnel with the knowledge and skills necessary to maintain airframes and aircraft hydraulic systems.

Instruction: Lectures and laboratory applications cover hydraulic systems, booster and auxiliary hydraulic systems, primary flight controls, wing flap and trim tab systems, main and nose wheel landing gear systems, and brake and antiskid systems.

Credit Recommendation: In the vocational certificate category, 4 semester hours in basic hydraulic components and aircraft familiarization (11/84); in the lower-division baccalaureate/associate degree category, 3 semester hours in basic hydraulics and systems (11/84).

NV-1704-0279

EC-130 Environmental Systems Maintenance

Course Number: D-602-0461.
Location: Air Station, Patuxent River, MD.
Length: 3 weeks (120 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To provide personnel with the knowledge and skills to maintain an aircraft environmental system.

Instruction: Lectures and practical exercises cover the operation and testing of pneumatic, anti-icing, fire extinguishing, and oxygen systems and their descriptions. Inspection and prevention for corrosion and corrosion control as well as safety precautions are also covered.

Credit Recommendation: In the vocational certificate category, 2 semester hours in the familiarization of environmental system corrosion control (11/84); in the lower-division baccalaureate/associate degree category, 1 semester hour in environmental systems (11/84).

NV-1704-0280

EC-130 Power Plant and Related Systems Maintenance

Course Number: D-601-0411.
Location: Air Station, Patuxent River, MD.
Length: 7 weeks (280 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To provide personnel with the knowledge and skills necessary to maintain aircraft gas turbine power plants, related systems, and auxiliary power plant systems.

Instruction: Lectures and laboratory applications cover aircraft fuel systems; safety procedures; turboprop engines and related systems, including oil, fuel, starting, temperature indicators, and engine controls; propeller and associated systems, including anti-icing and de-icing, fire detection, and extinguishing systems; and gas turbine auxiliary power and related systems.

Credit Recommendation: In the vocational certificate category, 6 semester hours in familiarization of turboprop engines and auxiliary power units (11/84); in the lower-division baccalaureate/associate degree category, 3 semester hours in power plant systems and turboprop and related systems (11/84).

NV-1704-0281

OE-159 Reel Operator/Maintenance

Course Number: D-104-0452.
Location: Air Station, Patuxent River, MD.
Length: 7 weeks (280 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To train personnel to operate and maintain the OE-159 antenna system.

Instruction: Lectures and laboratory applications cover electrical systems familiarization, reel panel familiarization (antenna), hydraulic principles as related to antenna components, safety principles, electrical system, reading and understanding electrical circuits for antenna reel systems, and troubleshooting. Also covered are computer fundamentals, related test equipment and maintenance, records, and inspection procedures.

Credit Recommendation: Credit is not recommended due to the military-specific nature of the course (11/84).

NV-1704-0287

S-3A Power Plant and Related Systems Organizational Maintenance

Course Number: C-601-3676.
Location: Air Station, North Island, San Diego, CA; Air Station, Cecil Field, FL.
Length: 2 weeks (80 hours).
Exhibit Dates: 1/90–4/95.

Objectives: To train enlisted personnel in the theory and knowledge of the propulsion, fuel, and auxiliary power systems of the S-3A aircraft.

Learning Outcomes: Upon completion of the course, the student will be able to identify and operate the S-3A fuel system, power plant, auxiliary power unit, and ground support equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in jet engine familiarization (4/85).

NV-1704-0288

S-3A Structure, Hydraulic, and Flight Control Systems Organizational Maintenance

Course Number: C-603-3676.
Location: Air Station, Cecil Field, FL; Air Station, North Island, San Diego, CA.
Length: 4 weeks (160 hours).
Exhibit Dates: 1/90–4/95.

Objectives: To train enlisted personnel in theory and troubleshooting techniques of the S-3A flight control systems.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot S-3A aircraft systems, including the hydraulic, landing gear, brakes, nose wheel steering, arresting hook, auxiliary power unit, wing fold, trim control, and flight control systems of the aircraft.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft system maintenance (4/85).

NV-1704-0289

SH-2 Aviation Machinist's Mate Power Plant System

Course Number: C-601-3378.
Location: Air Station, North Island, San Diego, CA.
Length: 4 weeks (160 hours).
Exhibit Dates: 1/90–4/95.

Objectives: To provide newly enlisted personnel with the skills to understand and maintain the aircraft power plant and related systems.

Learning Outcomes: Upon completion of the course, the student will be able to maintain the power plant and related systems of the SH-2 aircraft including the electrical and gas turbine systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in turbine engine maintenance (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in the theory of turbine (jet) engines (4/85).

NV-1704-0290

SH-2F Airframes, Hydraulics, and Flight Control Organizational Maintenance

Course Number: C-602-3394.
Location: Air Station, Norfolk, VA; Air Station, North Island, San Diego, CA.
Length: 2-3 weeks (75-80 hours).
Exhibit Dates: 1/90–Present.

Objectives: To train enlisted personnel in the basic maintenance of the hydraulic and flight control systems of the SH-2F helicopter.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain the hydraulic system, landing gear system, wheel brake system, rotor brake system, rescue hoist, and utility system and check, rig, and maintain automatic stabili-

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zation systems and flight control systems of the helicopter.

Credit Recommendation: In the vocational certificate category, 2 semester hours in helicopter hydraulics and flight control systems repair and maintenance (3/91); in the lower-division baccalaureate/associate degree category, 2 semester hours in helicopter hydraulics and flight control systems theory (3/91).

NV-1704-0291

SH-2F AUTOMATIC STABILIZATION

Course Number: C-602-3386.

Location: Air Station, North Island, San Diego, CA; Air Station, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train technicians in the functional maintenance of automatic stabilization equipment for a helicopter.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, at the functional block level, helicopter automatic stabilization equipment, including gyro systems, accelerometers, trim controls, and various electromechanical servo systems that control roll, yaw, pitch, air speed, and altitude.

Credit Recommendation: In the vocational certificate category, 2 semester hours in helicopter stabilization system maintenance (3/91).

NV-1704-0292

SH-60B AIRFRAMES AND RELATED SYSTEMS ORGANIZATIONAL MAINTENANCE

Course Number: C-603-4406.

Location: Air Station, North Island, San Diego, CA.

Length: 3 weeks (126 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide enlisted personnel with the skills necessary to maintain, troubleshoot, and repair airframes and related systems.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair systems of the SH-60B helicopter, including the composite structure, doors, cockpit enclosures, hydraulics, flight control systems, landing gear, environmental controls, main and tail rotor, and utility and weapons systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in aircraft structural repair (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft structural maintenance (4/85).

NV-1704-0293

SH-60B POWER PLANT AND RELATED SYSTEMS ORGANIZATIONAL MAINTENANCE

Course Number: C-601-4406.

Location: Air Station, North Island, San Diego, CA.

Length: 3 weeks (135 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train enlisted personnel in the basic inspection and maintenance of a gas turbine engine and related helicopter drive systems.

Learning Outcomes: Upon completion of the course, the student will be able to remove, install, and maintain engine and auxiliary power unit components of the T700 GE-401 gas turbine engine and troubleshoot and maintain fire extinguishing systems, fuel systems, and rotor drive systems of the helicopter.

Credit Recommendation: In the vocational certificate category, 2 semester hours in helicopter turbine engine overhaul (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in turbine engine theory (4/85).

NV-1704-0294

T-700-GE 401 INTERMEDIATE MAINTENANCE FIRST DEGREE

Course Number: C-601-4408.

Location: Air Station, North Island, San Diego, CA; Air Station, Mayport, FL.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train enlisted personnel in inspecting, troubleshooting, disassembling, and building up an aircraft engine.

Learning Outcomes: Upon completion of the course, the student will be able to understand and troubleshoot the T-700-GE aircraft engine system, including engine teardown, inspection and buildup and be familiar with engine borescope inspection.

Credit Recommendation: In the vocational certificate category, 2 semester hours in aircraft turbine engine maintenance (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft turbine engine theory (4/85).

NV-1704-0295

TF-34 FIRST DEGREE INTERMEDIATE MAINTENANCE

Course Number: C-601-3677.

Location: Air Station, North Island, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train personnel in the inspection, disassembly, repair, and reassembly of a turbine engine.

Learning Outcomes: Upon completion of the course, the student will be able to disassemble, inspect, and reassemble the TF-34 turbofan engine, including the fuel, electrical, and lubrication systems as well as the borescope inspection.

Credit Recommendation: In the vocational certificate category, 2 semester hours in turbine engine repair and maintenance (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in turbine engine maintenance (4/85).

NV-1704-0296

WR-27 AUXILIARY POWER UNIT INTERMEDIATE MAINTENANCE

Course Number: C-601-3679.

Location: Air Station, North Island, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train personnel in the inspection, disassembly, and buildup of an auxiliary power unit.

Learning Outcomes: Upon completion of the course, the student will be able to assemble/disassemble, inspect, and troubleshoot the WR-27 auxiliary power unit using appropriate test equipment and special tools.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/85).

NV-1704-0297

SH-3 AVIATION MACHINIST'S MATE, CLASS A POWER PLANT SYSTEMS

Course Number: C-601-4396.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide personnel with the skills to maintain a turbine engine power plant and its related systems.

Learning Outcomes: Upon completion of the course, the student will be able to maintain a turbine engine power plant and its related systems at a very basic level and will be familiar with the hydraulics, electricity, jet propulsion theory, and gas turbine power plant operation of the SH-3 aircraft.

Credit Recommendation: In the vocational certificate category, 1 semester hour in jet engine laboratory (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in turbine (jet) engine theory (4/85).

NV-1704-0300

AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT OFFICER, CLASS C2

(Aircraft Launch and Recovery Equipment Officer)

Course Number: C-2G-2010.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 2-3 weeks (95-103 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to direct aircraft launch and recovery operations.

Instruction: Course includes lectures and performance exercises to direct operations of aircraft launch and recovery.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/96).

NV-1704-0301

AVIATION BOATSWAIN'S MATE HANDLING, CLASS C1, (SEA TRACK)

Course Number: C-822-2014.

Location: Air Technical Training Center, Lakehurst, NJ; Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to supervise personnel in shipboard aircraft handling and crash salvage procedures.

Instruction: Course includes lectures and performance exercises in aircraft ground handling, crash and fire damage control, first aid, and fire fighting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in administration (correspondence and filing), 1 in industrial safety, and 2 in supervision of aircraft emergency operations (crash/fire/rescue) (6/87).

NV-1704-0302

Aviation Boatswain's Mate Equipment, Class A1, C13 Track

Course Number: C-604-2019.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will apply entry-level skills to the operation of aircraft launch and restraint equipment under supervision.

Instruction: Course includes lectures with limited performance exercises in C-13 catapult equipment and accessories for aircraft launch and restraint.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in fluid power system theory in an industrial maintenance technology program (6/87).

NV-1704-0303

Aircrew Survival Equipmentman, Class C1

Course Number: C-602-2011.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 12 weeks (452 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to establish and supervise a maintenance organization which inspects, services, and repairs aircrew survival equipment.

Instruction: Lectures and hands-on experience cover theory and practical application relating to maintenance and material management of items of equipment used for aircrew survival. Course includes detailed study of industrial-grade sewing machines, gaseous and liquid oxygen support systems and equipment, and related aviation survival equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in industrial sewing machine repair and service (6/87); in the lower-division baccalaureate/associate degree category, 3 semester hours in general science laboratory, 1 in aircraft environmental control systems, and 1 in maintenance systems planning (6/87).

NV-1704-0304

Aircrew Survival Equipmentman, Class A1

Course Number: C-602-2010.

Location: Air Technical Training Center, Memphis, Millington, TN; Air Technical Training Center, Lakehurst, NJ.

Length: 10-11 weeks (368-388 hours).

Exhibit Dates: 1/90–1/96.

Learning Outcomes: Upon completion of the course, the student will be able to work with minimum supervision in the area of survival equipment inspection, repair, and operation. This equipment is essential to support flying safety and pilot survival in an emergency.

Instruction: Major topics include parachute assembly, packing, and inspection; survival clothing, oxygen masks, and exposure equipment; sewing machine use; maintenance and repair of fabrics; and interpretation and application of technical requirements and documents.

Credit Recommendation: In the vocational certificate category, 2 semester hours in sewing machine operation, service, and maintenance and 2 in parachute packing and inspection (10/91); in the lower-division baccalaureate/associate degree category, 3 semester hours in aviation safety equipment repair and maintenance (10/91).

NV-1704-0305

1. Aircraft Launch and Recovery Equipment C13 Mod O Catapult, Class C1
2. Aircraft Launch and Recovery Equipment, Class C1, C13 Mod O Track

Course Number: *Version 1:* C-604-2011. *Version 2:* C-604-2011.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: *Version 1:* 4-6 weeks (193-229 hours). *Version 2:* 8 weeks (310 hours).

Exhibit Dates: *Version 1:* 3/90–Present. *Version 2:* 1/90–2/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to inspect, operate, and maintain C-13 catapults and related equipment, including Mk-7 Mods 1, 2, and 3 arresting gear, barriers, and shore-based arresting gear. *Version 2:* Upon completion of the course, the student will be able to inspect, operate, and maintain C-13 catapults and related equipment, including Mk-7 Mods 1, 2, and 3 arresting gear, barriers, and shore-based arresting gear.

Instruction: *Version 1:* Lectures and practical laboratory experiences in aircraft launch and recovery equipment utilizing C13 Mod 0 equipment as training vehicle, and in safety procedures in hazardous conditions and environment. *Version 2:* Lectures and practical experiences cover aircraft launch and recovery equipment, C13 and C13 Mod 1.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial safety and 2 in hydraulic and pneumatic principles (1/96). *Version 2:* In the vocational certificate category, 3 semester hours in fluid power principles (6/87); in the lower-division baccalaureate/associate degree category, 3 semester hours in fluid power maintenance and troubleshooting and 1 in industrial safety (6/87).

NV-1704-0306

Aviation Boatswain's Mate Fuels, Class A1

Course Number: *Version 1:* C-821-2010. *Version 2:* C-821-2010.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Lakehurst, NJ; Technical Training Center, Millington, TN.

Length: *Version 1:* 5 weeks (204 hours). *Version 2:* 4-5 weeks (167 hours).

Exhibit Dates: *Version 1:* 7/95–Present. *Version 2:* 1/90–6/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform entry-level duties in aircraft refueling and maintenance of refueling equipment. *Version 2:* Upon completion of the course, the student will be able to perform entry-level duties in aircraft refueling and maintenance of refueling equipment.

Instruction: *Version 1:* Course includes lectures and performance exercises in aircraft refueling, maintenance and repair of refueling systems, and fuel quality verification. *Version 2:* Course includes lectures and performance exercises in aircraft refueling, maintenance and repair of refueling systems, and fuel quality verification.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial maintenance practices (1/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft ground operations and servicing (6/87).

NV-1704-0307

1. Aircraft Launch and Recovery Equipment C13 Mod 1/2 Catapult
2. Aviation Boatswain's Mate Equipment, Class C1, C13 Mod 1 Track

Course Number: *Version 1:* C-604-2014. *Version 2:* C-604-2014.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: *Version 1:* 5-6 weeks (177 hours). *Version 2:* 8 weeks (300 hours).

Exhibit Dates: *Version 1:* 3/95–Present. *Version 2:* 1/90–2/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will fully understand the technical principles needed to maintain the C-13 Mod 1/2 catapult equipment. *Version 2:* Upon completion of the course, the student will be able to maintain Type C Mark 13 Mod 1 catapult and Mark 7 Mod 3 arresting gear equipment for aircraft launch and restraint.

Instruction: *Version 1:* Course includes lectures and performance exercises pertinent to catapult and restraint systems used to launch and recover aircraft. Course includes servicing, repairing, inspection, and rigging procedures. Student is prepared with the minimum technical knowledge needed to perform as a work center supervisor, and to demonstrate safety in hazardous conditions in environment. *Version 2:* Course includes lectures and performance exercises on catapult and restraint systems, including servicing, repairing, troubleshooting, inspecting, and rigging procedures as well as the minimum technical knowledge and guidance needed to perform as a work center supervisor.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial safety, 2 in hydraulics and pneumatic systems, 1 in industrial maintenance supervision, and 1 in introduction to industrial maintenance (1/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic and pneumatic system principles in an industrial maintenance technology program, 3 in industrial equipment maintenance, and 1 in principles of industrial maintenance supervision (6/87).

NV-1704-0308

1. Aircraft Launch and Recovery Equipment Maintenance Officer, Class 2
2. Aircraft Launch and Recovery Equipment Maintenance Officers

Course Number: *Version 1:* C-2G-2011. *Version 2:* C-2G-2011.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: *Version 1:* 5-6 weeks (219 hours). *Version 2:* 8 weeks (320 hours).

Exhibit Dates: *Version 1:* 9/93–Present. *Version 2:* 1/90–8/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to supervise aircraft launch and recovery equipment maintenance, troubleshooting, and quality assurance, and to complete technical reports and forms. *Version 2:* Upon completion of the course, the student will be able to supervise aircraft launch and recovery equipment maintenance, troubleshooting, and quality assurance.

Instruction: *Version 1:* Course includes lectures and performance exercises in record keeping, file documentation, researching technical publications, troubleshooting, and returning to service launch and recovery equipment. *Version 2:* Course includes lectures and performance exercises in record keeping, file documentation, researching technical publications, troubleshooting, and returning to service launch and recovery equipment.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in fluid system maintenance, 3 in industrial equipment maintenance, and 3 in technical report writing (1/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in fluid system maintenance, 3 in industrial equipment maintenance, and 2 in technical report writing (6/87).

NV-1704-0309

1. Aviation Boatswain's Mate Fuels, Class C1
   (Aviation Fuel Systems, Class C1)
2. Aviation Fuel Systems, Class C1

Course Number: *Version 1:* C-821-2011. *Version 2:* C-821-2011.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Lakehurst, NJ.

Length: *Version 1:* 5 weeks (180-195 hours). *Version 2:* 5 weeks (193 hours).

Exhibit Dates: *Version 1:* 3/95–Present. *Version 2:* 1/90–2/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform organizational level maintenance on automotive gasoline systems, aviation fuels systems afloat and ashore, and catapult lube oil distribution and stowage systems. The student will also be able to supervise aviation fueling operations. *Version 2:* Upon completion of the course, the student will be able to supervise aviation fueling operations and the troubleshooting and repairing of the refueling system components.

Instruction: *Version 1:* Course includes lectures and performance exercises on electric pumps, electric valves, top-level indicating and control system, centrifugal purifiers, valves, pumps, filters, and meters. Instruction on proper procedures to ventilate and clean storage and service tanks is included. *Version 2:* Course includes lectures and performance exercises on equipment for aircraft refueling operations, including operation of contamination detection equipment, pump maintenance and repair, indicator system, refueling system maintenance and troubleshooting, and aircraft refueling procedures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft ground operation, 2 in industrial safety, and 1 in pumps and compressors (1/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft ground operations and servicing and 1 in chemistry laboratory (6/87).

NV-1704-0310

1. Aviation Boatswain's Mate (Launch and Recovery Equipment), Class A1
2. Aviation Boatswain's Mate Equipment, Class A1 Common Core
   (Aviation Boatswain's Mate E Launching and Recovery Equipment, Class A1 Common Core)

Course Number: *Version 1:* C-604-2012. *Version 2:* C-604-2012.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Lakehurst, NJ; Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 4-5 weeks (170 hours). *Version 2:* 4 weeks (160 hours).

Exhibit Dates: *Version 1:* 9/95–Present. *Version 2:* 1/90–8/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use hand tools, power tools, and measuring tools; apply basic principles of hydraulics; apply maintenance and material management techniques; and operate arresting gear and catapult components. This course is designed to teach entry-level personnel the components and operations of shipboard arresting gear and catapults. *Version 2:* Upon completion of the course, the student will be able to assist in operating and maintaining shipboard arresting gear.

Instruction: *Version 1:* Instruction is primarily formal classroom presentation but does contain some laboratory work. *Version 2:* Course includes lectures and performance exercises on arresting gear, including corrosion control and basic hydraulics and gear maintenance, servicing, and operation.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial equipment maintenance in an industrial maintenance technology curriculum (1/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial equipment maintenance (in industrial maintenance technology curriculum) (6/87).

NV-1704-0311

Aviation Boatswain's Mate Equipment, Class A1, C7/C11 Track

Course Number: C-604-2018.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 4 weeks (133 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate aircraft launch and restraint equipment under supervision.

Instruction: Course includes lectures with limited performance exercises in Mark 7 and Mark 11 steam catapult equipment and accessories for aircraft launch and restraint.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in fluid power system theory in industrial maintenance technology (6/87).

NV-1704-0315

Guided Missile Launching System Mk 26 Operation and Maintenance
(Guided Missile Launcher System Mk 26)

Course Number: A-121-0011.

Location: Service School Command, Great Lakes, IL.

Length: 22 weeks (880 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the gunner's mate will apply fundamental electro-mechanical-hydraulic skills and knowledge to operate and maintain a computer-controlled guided missile launching system. The student will be able to trace, analyze, isolate, and repair, down to the card level, using electrical-hydraulic interconnection and internal wiring diagrams.

Instruction: Classroom instruction and laboratory exercises cover launching systems control, power distribution, troubleshooting and reference diagrams, system control interface, launcher load/unload, electronic servo control unit, and hydraulic systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in hydraulic systems troubleshooting and maintenance (1/89); in the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical systems troubleshooting and maintenance (1/89).

NV-1704-0316

1. Submarine Hydraulic Combined Maintenance
2. Trident Submarine Hydraulic Combined Maintenance
3. Trident Submarine Hydraulic Combined Maintenance

Course Number: *Version 1:* A-652-0143. *Version 2:* A-652-0143. *Version 3:* A-652-0143.

Location: *Version 1:* Submarine School, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA. *Version 3:* Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: *Version 1:* 2 weeks (72 hours). *Version 2:* 3 weeks (117 hours). *Version 3:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 9/96–5/97. *Version 2:* 5/95–8/96. *Version 3:* 1/90–4/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the theory and operation of a submarine hydraulic system and perform corrective maintenance on the system. *Version 2:* Upon completion of the course, the student will be able to describe the theory and operation of the submarine hydraulic system and perform corrective maintenance on the system. *Version 3:* Upon completion of the course, the student will be able to operate, troubleshoot, and repair stern diving and external hydraulic systems.

Instruction: *Version 1:* Lectures and laboratory exercises cover the theory of hydraulics, construction, operation, and maintenance of submarine hydraulic systems. *Version 2:* Lectures and laboratory exercises on the ship's service hydraulic system, stern diving hydraulic systems/power plant, and preventive maintenance of the hydraulic system. *Version 3:* Lectures and laboratory exercises cover the theory of hydraulics and the construction, operation, and maintenance of submarine hydraulic systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulic systems (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in mechanical technology (hydraulics and fluids) (4/96). *Version 3:* In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic machinery (2/89).

NV-1704-0317

Trident Pneumatic Subsystem Maintenance

Course Number: A-652-0145.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (90 hours).

Exhibit Dates: 1/90–3/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate high- and low-pressure air compressors and troubleshoot and repair pneumatic systems, including air compressors, dehydrators, and air manifolds.

Instruction: Lectures and laboratory exercises cover air compressor construction, operation, and maintenance and related pneumatic equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in facilities engineering (pneumatic systems) (2/89).

NV-1704-0318

Trident Submarine Auxiliary Equipment
Technician Level 2

Course Number: A-652-0141.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 6 weeks (350 hours).

Exhibit Dates: 1/90–10/96.

Learning Outcomes: See individual exhibits for learning outcomes. This is a pipeline course.

Instruction: See exhibits NV-1704-0316 (A-652-0143), NV-1704-0317 (A-652-0145), NV-1731-0001 (A-652-0146), NV-1712-0028 (A-652-0150), and NV-1701-0010 (A-652-0204).

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (2/89).

NV-1704-0319

Machinist's Mate Steam Propulsion
Maintenance Supervisor

Course Number: *Version 1:* A-651-0063. *Version 2:* A-651-0063.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 23 weeks (693 hours). *Version 2:* 17-18 weeks (740 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 1/90–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to organize, perform, and supervise preventive and corrective maintenance and troubleshoot the mechanical systems associated with steam power generation systems, except for the systems directly associated with the steam generation facility. *Version 2:* Upon completion of the course, the student will be able to organize, perform, and supervise preventive and corrective maintenance and troubleshoot the mechanical systems associated with steam power generation systems, except for the systems directly associated with the steam generation facility.

Instruction: *Version 1:* This is a pipeline course made up of A-651-0064, Engineering Maintenance Principles, Practices, and Administration; A-651-0065, Valve Maintenance; A-651-0067, Pump Maintenance; A-652-0069, Governor and Regulator Maintenance; A-651-0068, Auxiliary Turbine Maintenance; A-651-0077, Ship Service Turbo Generator Maintenance; A-651-0078, Main Engine and Lube Oil Purifier Maintenance; and A-651-0070, Air Compressor Maintenance. A-651-0071, Distilling Plant Condenser and Heat Exchanger Maintenance, was too brief for evaluation. The courses listed above can be found under exhibits NV-1710-0108, NV-1732-0018, NV-1710-0091, NV-1710-0086, NV-1704-0321, NV-1704-0320, NV-1601-0027, and NV-1601-0029. *Version 2:* This is a pipeline course made up of A-651-0064, Engineering Maintenance Principles, Practices, and Administration; A-651-0065, Valve Maintenance; A-651-0067, Pump Maintenance; A-652-0069, Governor and Regulator Maintenance; A-651-0068, Auxiliary Turbine Maintenance; A-651-0077, Ship Service Turbo Generator Maintenance; A-651-0078, Main Engine and Lube Oil Purifier Maintenance; and A-651-0070, Air Compressor Maintenance. A-651-0071, Distilling Plant Condenser and Heat Exchanger Maintenance, was too brief for evaluation. The courses listed above can be found under exhibits NV-1710-0108, NV-1732-0018, NV-1710-0091, NV-1710-0086, NV-1704-0321, NV-1704-0320, NV-1601-0027, and NV-1601-0029.

Credit Recommendation: *Version 1:* Please refer to the individual exhibits as noted above for credit recommendation (11/95). *Version 2:* Please refer to the individual exhibits as noted above for credit recommendation (3/89).

NV-1704-0320

1. Ship's Service Turbo-Generator Maintenance
2. Ship's Service Turbo Generator Maintenance

Course Number: *Version 1:* A-651-0077. *Version 2:* A-651-0077.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 1-2 weeks (28 hours). *Version 2:* 1-2 weeks (51 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 1/90–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use technical references to establish appropriate maintenance requirements and perform maintenance on steam turbines and the mechanical auxiliaries associated with turboelectric generators. *Version 2:* Upon completion of the course, the student will be able to use technical references to establish appropriate maintenance requirements and perform maintenance on steam turbines and the mechanical auxiliaries associated with turboelectric generators.

Instruction: *Version 1:* Lectures and laboratory experiments are used along with homework assignments and record keeping practice. Topics include steam turbines and turboelectric generators with special emphasis on the use of manuals for these devices. *Version 2:* Classroom instruction, demonstrations, and practical exercises cover the subject matter. Record keeping procedures are included.

Credit Recommendation: *Version 1:* In the vocational certificate category, 1 semester hour in basic machinery maintenance (11/95). *Version 2:* In the vocational certificate category, 1 semester hour in machinery maintenance (3/89).

NV-1704-0321

Auxiliary Turbine Maintenance
(Auxiliary Machinery Turbine Maintenance)

Course Number: A-651-0068.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (53 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform engineering maintenance on auxiliary steam turbines.

Instruction: Classroom and practical instruction cover instrumentation, inspection, and maintenance of turbine machinery.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in turbine machinery maintenance laboratory (6/94).

NV-1704-0323

Cargo Weapons Elevator Maintenance

Course Number: A-690-0082.

Location: Technical Training Center, Treasure Island, San Francisco, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use the technical documentation provided for use with the Standard Electronic Module (SEM) cargo/weapons controller; describe the functional operation of the SEM controller, including signal flow, loop operation, and time sequence; and perform preventive and corrective maintenance on the SEM controller in accordance with standard Navy checklist procedures.

Instruction: Lectures and practical exercises cover electrical, mechanical, hydraulic, and safety devices (for personnel and equipment) used on ships' elevators.

Credit Recommendation: In the vocational certificate category, 6 semester hours in electromechanical technology laboratory (8/89).

NV-1704-0324

Aviation Machinist's Mate, Class A1

Course Number: C-601-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 8-9 weeks (334-342 hours).

Exhibit Dates: 1/90–1/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform aircraft maintenance and jet engine mechanics.

Instruction: Lectures and practical exercises cover jet engine repair, theory of general aircraft maintenance, corrosion control, tool inventory, jet propulsion principles, power plant familiarization, typical axial and centrifugal flow power plant familiarization, inspections, power plant replacement, jet aircraft line operations, and fuel systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in turbine engine theory (6/91).

NV-1704-0325

Aviation Structural Mechanic (Safety Equipment), Class A1

Course Number: C-602-2015.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 10-11 weeks (400-412 hours).

Exhibit Dates: 1/90–1/96.

Learning Outcomes: Upon completion of the course, the student will be able to repair aviation systems.

Instruction: Lectures and laboratories cover the functions of aviation structural mechanics, including schematic interpretation, application of maintenance and materiel management system, gaseous systems, typical aircraft systems, liquid oxygen systems, aircraft pressurization and air conditioning system, operation and line maintenance, egress systems, and auxiliary bleed air systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in pressure and air conditioning systems and 3 in gaseous systems (oxygen and liquid oxygen) (8/91).

NV-1704-0326

Aviation Support Equipment Technician, Class A1

Course Number: *Version 1:* C-602-2026. *Version 2:* C-602-2026.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL. *Version 2:* Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 16-17 weeks (651 hours). *Version 2:* 16-17 weeks (605-653 hours).

Exhibit Dates: *Version 1:* 1/97–Present. *Version 2:* 1/90–12/96.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will perform maintenance and administrative duties.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and laboratories cover hand tools, hardware, composite materials, publications and forms; basic electricity including Ohm's law, test equipment, magnetism, capacitors, semiconductors, troubleshooting, power generating equipment, charging, ignition systems, diesel engines, hydraulic accessories, air conditioning, gas turbine compressors, and corrosion control.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic systems operation, 4 in DC circuits, and 2 in automotive fundamentals (2/92).

NV-1704-0327

Basic Helicopter (H-1), Class A1

Course Number: C-600-2011.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 3-4 weeks (132 hours).

Exhibit Dates: 1/90–9/94.

Learning Outcomes: Upon completion of the course, the student will serve as apprentice helicopter mechanic at the organizational level.

Instruction: Lectures and laboratories cover hand tools; aircraft hardware; safety procedures; forms and records; aircraft ground handling and taxiing; and aircraft systems, including the electrical and fuel systems, power plant and drive system, flight control system, rotor system, hydraulic system, and line operation and inspection.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in helicopter maintenance. Note: This credit duplicates the credit recommended for C-600-2010 and C-600-2012 (9/89).

NV-1704-0328

Basic Helicopter (H-53), Class A1

Course Number: C-600-2012.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 3-4 weeks (156 hours).

Exhibit Dates: 1/90–9/94.

Learning Outcomes: Upon completion of the course, the student will serve as apprentice helicopter mechanic at the organizational level.

Instruction: Lectures and laboratories in hand tools; aircraft hardware; safety procedures; forms and records; aircraft ground handling and taxiing;, and aircraft systems, including the electrical and fuel systems, power plant and drive system, flight control system, rotor system, hydraulic system, and line operation and inspection.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in helicopter maintenance. Note: This credit duplicates the credit recommended for C-600-2010 and C-600-2011 (9/89).

NV-1704-0329

1. Basic Helicopter
2. Basic Helicopter (H-46), Class A1

Course Number: *Version 1:* C-600-2010-M1. *Version 2:* C-600-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 2 weeks (67 hours). *Version 2:* 3-4 weeks (132-163 hours).

Exhibit Dates: *Version 1:* 10/94–10/95. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will serve as apprentice helicopter mechanic at the organizational level. *Version 2:* Upon completion of the course, the student will serve as apprentice helicopter mechanic at the organizational level.

Instruction: *Version 1:* Course includes lectures and laboratories in basic knowledge and skills necessary to perform as an entry-level helicopter mechanic. *Version 2:* Lectures and laboratories in hand tools; aircraft hardware; safety procedures; forms and records;, aircraft ground handling and taxiing; and aircraft systems, including the electrical and fuel systems, power plant and drive system, flight control system, rotor system, hydraulic system, and line operation and inspection.

Credit Recommendation: *Version 1:* Credit is not recommended because the course is too general in content and short in duration (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in helicopter maintenance. Note: This credit duplicates the **credit recommended for C-600-2011 and C-600-2012 (4/91).**

NV-1704-0330

Marine Air Traffic Control Advanced Technician, Class C1

Course Number: C-103-2047.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, install, and repair advanced electronics systems and equipment and be able to train others in electronic maintenance management.

Instruction: Lectures and laboratories cover maintenance management, including maintenance procedures, supply, inspection, publications, safety, and resource management concepts. Technical topics include logic gates, shift registers, memory devices, microprocessors, and programming. Also included is maintenance on communications, radar, and navigation equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in maintenance management, 1 in computer systems and organization, and 2 in electronic systems troubleshooting and maintenance (9/89).

NV-1704-0332

General Mechanical Maintenance Skills

Course Number: A-652-0228.

Location: Guided Missiles School Detachment, Dam Neck, Virginia Beach, VA; Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, San Diego, CA; Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, repair, and test piping, gauges, and heat exchangers and perform pump-motor alignment and bearing inspection.

Instruction: Lectures cover the use of hand tools, gauges, measuring instruments, safety, documentation, lubrication, bearings, and precision instruments. Laboratory exercises cover the use of hand tools, precision instruments, weight handling equipment, locking devices, and bearing inspection. Course also includes disassembly, inspection, repair, assembly, and testing of mechanical components and systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in hand tools and safety procedures and 2 in maintenance of piping systems and mechanical instruments (10/89).

NV-1704-0333

Ocean Systems Technician Analyst, Class A

Course Number: J-210-0011.

Location: Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 13-14 weeks (532 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze acoustic signature displays of signals received from sonar detectors, identify ships/boats by their acoustic signature displays, and describe general shipboard propulsion systems and machinery.

Instruction: Classroom lectures and practical exercises cover each topic. Emphasis is on analyzing acoustic signatures.

Credit Recommendation: In the vocational certificate category, 2 semester hours in survey of marine propulsion machinery (3/90); in the upper-division baccalaureate category, 3 semester hours in ocean acoustics (3/90).

NV-1704-0334

MH-53 Rotors and Related Systems Organizational Maintenance

Course Number: C-602-4446.

Location: Air Station, Norfolk, VA.

Length: 5-6 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, repair, inspect, rig, remove, and install main/tail rotors, drive trains, and flight control systems on rotary-wing aircraft.

Instruction: Classroom and practical experiences use necessary technical data and systems mock-ups.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in helicopter systems maintenance (3/91).

NV-1704-0335

MH-53E Power Plants and Related Systems Organizational Maintenance

Course Number: C-601-3446.

Location: Air Station, Norfolk, VA.

Length: 3-4 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to conduct power plant/auxiliary power plant and related power plant systems inspections, maintenance, removal, installation, and rigging on rotary-wing aircraft.

Instruction: Classroom and practical exercises use audiovisual and appropriate system mock-ups and technical publications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in turbine engine power plants (2/91).

NV-1704-0336

SH-2F Power Plants, Related Systems, and Rotor Systems Organizational Maintenance

Course Number: C-601-3387.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Norfolk, VA.

Length: 2-3 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to service and troubleshoot aircraft fuel systems; identify turbine engine sections and their primary purpose; remove and install power plants and rotor blades; troubleshoot electrical, engine, air, main, and tail rotor transmissions; and inspect these components.

Instruction: Lectures and practical exercises cover servicing, inspecting, and maintaining/troubleshooting power plants, power plant electrical systems, and main and tail rotor transmissions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in engine power plant repair (3/91).

NV-1704-0337

T-58 First Degree Maintenance

Course Number: C-601-3131.

Location: Air Station, Jacksonville, FL; Air Station, North Island, San Diego, CA; Air Station, Norfolk, VA.

Length: 3-4 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to remove, disassemble, inspect, repair, and replace the systems and components of turboshaft engines.

Instruction: Lectures and practical exercises cover the subject areas.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in turbine engine maintenance (3/91).

NV-1704-0338

E2/C2 Power Plants and Propeller Organizational Maintenance

Course Number: C-601-3472.

Location: Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group Detachment, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain turboshaft engines and propellers.

Instruction: Lectures and practical exercises cover the disassembly, inspection, and repair of turboshaft engines and engine systems including the propeller and propeller systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in turboshaft engines and 3 in propellers (3/91).

NV-1704-0339

Air Intercept Controller Supervisor Qualification, Class C1

Course Number: K-221-0015.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to supervise aircraft intercept controllers and aircraft weapons coordinators.

Instruction: Lectures and practical exercises include instruction in air control procedures; US and Soviet aircraft types, performance, and tactics; Soviet naval and air capabilities and warfare doctrine; antisubmarine warfare detection equipment, weapons and tactics; weather considerations; air intercept controller communications and tactics; navigation aids, IFF and radar capabilities; and rules, regulations, and publications related to the above.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in air traffic control laboratory (10/91).

NV-1704-0340

Air Intercept Controller Intermediate

Course Number: J-221-2301.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 8/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate air intercept control, radiotelephone intercept control, and nearest collision intercept procedures.

Instruction: Lectures and laboratory exercises cover intercept controller communications, air interception procedures, air control procedures, and aircraft tactics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in air traffic control laboratory (10/91).

NV-1704-0341

A-6 Structural Systems Organizational Maintenance

Course Number: C-602-3764.

Location: Air Station, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have sufficient knowledge of the A-6 structural, flight control, landing gear, and related systems to perform organizational maintenance at the squadron level.

Instruction: Lectures and limited practical applications cover A-6 structural, flight control, and landing gear systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft flight control systems and 1 in aircraft landing gear systems (3/91).

NV-1704-0342

EA-6B Environmental, Escape, and Survival Systems Organizational Maintenance

Course Number: C-602-3772.

Location: Air Station, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (128 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have sufficient knowledge of the environmentol escape, and survival systems of the EA-6B aircraft to perform, under supervision, organizational maintenance at the squadron level.

Instruction: Lectures and practical application cover EA-6B oxygen and canopy systems, escape and survival systems, and environmental and control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in environmental systems and 1 in aircraft oxygen systems (3/91).

NV-1704-0343

A-6 and Hydraulic Organizational Maintenance

Course Number: C-602-3761.

Location: Air Station, Oceana, Virginia Beach, VA; Air Station, Whidbey Island, Oak Harbor, WA.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe, analyze, and troubleshoot the A-6 airframe and hydraulic systems.

Instruction: Lectures and limited practical applications on the A-6 airframe hydraulic, flight control, landing gear, and arresting gear systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft hydraulic and flight control systems and 2 in landing gear systems (8/89).

NV-1704-0344

SH-60F/HH-60H Air Frames and Hydraulic Systems Consolidated Maintenance

Course Number: E-602-0883; C-602-0883.

Location: Air Station, Jacksonville, FL; Helicopter Antisubmarine Squadron 10, North Island, CA.

Length: 10-11 weeks (371-387 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect, service, and replace components of the cabin doors and seats, main and tail rotor systems, flight control systems, and stabilizer system; troubleshoot and service the hydraulic system and replace components as required; inspect and repair main and tail rotors; replace components in the environmental control system; and jack and level the aircraft.

Instruction: Lectures and laboratories cover the hydraulic, environmental control, cabin furnishing, main and tail rotor, flight control, wheel brake, and ice and rain control systems of the helicopter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft systems and 1 in airframe component inspection as required in an FAA maintenance technician program (11/92).

NV-1704-0345

SH-60F/HH-60H Power Plants and Related Systems Organizational Maintenance

Course Number: E-601-0814.

Location: Helicopter Antisubmarine Squadron 10, North Island, CA.

Length: 10 weeks (379 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair power plants and related systems on a complex helicopter.

Instruction: Lectures and laboratories cover maintenance data systems; basic corrosion control; mobile electric power supply; applicable shaft turbine engines, including fuel, lubricating, and electrical systems; engine inspection and troubleshooting; auxiliary power unit operation and built-in test equipment systems; fire extinguishing systems; aircraft fuel system; and main rotor and tail rotor transmission and drive systems. Completion of the course provides the technician with the qualifications to inspect, service, and maintain those systems that are categorized as power plant or rotor related.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft power plant systems turbine, 2 in helicopter maintenance heavy turbine power systems, and 3 in helicopter maintenance heavy turbine power systems laboratory (3/92).

NV-1704-0346

SH-60F/HH-60H Non-designated Airman

Course Number: E-600-0812.

Location: Helicopter Antisubmarine Squadron 10, North Island, CA.

Length: 4 weeks (138 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify corrosion types and causes, operate electrical ground power units for aircraft use, describe helicopter major system components, and describe daily inspection and cleaning requirements for helicopter operation in a harsh environment.

Instruction: Lectures and laboratories cover maintenance familiarization, ground support equipment, corrosion and corrosion control, ground handling of helicopters, and helicopter servicing.

Credit Recommendation: In the vocational certificate category, 1 semester hour in the general section of an FAA aviation maintenance technician school (2/93).

NV-1704-0347

SH-60F/HH-60H Electrical/Instrument Systems Consolidated Maintenance

Course Number: E-602-0855; C-602-0855.

Location: Helicopter Antisubmarine Squadron 10, North Island, CA.

Length: 11-13 weeks (500-520 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, remove, and replace electrical components within the AC and DC generation systems, interior and exterior lighting systems, and instruments and warning systems. The student will be able to operate, troubleshoot, and replace components in the fuel transfer, quantity indicating, and pressure refueling systems; troubleshoot and repair the engine electrical control system, anti-ice system, and blade-fold system; troubleshoot and replace components in the landing gear and flotation systems including main wheel and tail wheel brakes; and troubleshoot and repair the environmental control, fire protection, auto flight control, and stability systems.

Instruction: Lectures and practical exercises cover the topics mentioned above.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in aircraft hydraulic, electrical, fire protection, and instrument systems as applicable to an FAA maintenance technician school (11/92).

NV-1704-0348

P-3C Integrated Avionics System Data Processing Systems One and Three Organizational Maintenance

Course Number: C-102-4579.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair a P-3C data processing system.

Instruction: Lectures, practical exercises, and exams cover the functional operation of typical computer components, including registers, NOR, XOR, multiplexers, line drivers, receivers, data buffers, error code identification, and corrective action.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computers systems troubleshooting and maintenance (7/92).

NV-1704-0349

P-3C Integrated Avionics System, Display Systems Organizational Maintenance

Course Number: C-102-4580.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 1-2 weeks (48 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and maintain the display systems of the aircraft.

Instruction: Lectures, laboratories, and exams cover system operation and component function, including video display circuits, power supplies, voltage regulators, sweep circuits, summing amplifiers, D/A converters, and cathode ray tube and matrix readout assemblies. Oscilloscopes and multimeters are used to determine component functional failure.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1704-0350

P-3C Integrated Avionics System Sensor Station Three Systems Organizational Maintenance

Course Number: C-102-4581.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot the avionics systems located in the rear of the P-3C aircraft including 240 degree search radar, IFF/SIF transponder, magnetic anomaly detector, and infrared detector and apply the principles of radar, microwaves, and magnetometers.

Instruction: Lectures, performance exercises, and exams use meters and oscilloscopes to analyze and repair the avionics systems in the aircraft.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1704-0351

P-3C Integrated Avionics Systems Update Navigation/Communication Systems Organizational Maintenance

Course Number: C-102-4590.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and troubleshoot communications and navigation equipment, including ADF, VOR, TACAN, marker beacon, and HF-UHF-VHF radio and teletype.

Instruction: Lectures, laboratories, and exams cover navigation systems, radio navigation systems, Doppler systems, and the P-3C avionics system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications (7/92).

NV-1704-0352

Aircraft Sealed Instrument Repair Intermediate Maintenance

Course Number: C-602-3019.

Location: Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair aircraft instruments and apply the physics of sensing instruments to measure temperature, altitude, attitude, pressure, and speed.

Instruction: Lectures, performance exercises, and examinations cover disassembly, alignment, operational checks, and selected repair of aircraft instruments. Meters, oscilloscopes, test sets, and special tools are used extensively.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1704-0353

Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance

Course Number: *Version 1:* C-602-3232A. *Version 2:* C-602-3232.

Location: *Version 1:* Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA. *Version 2:* Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: *Version 1:* 2-3 weeks (72 hours). *Version 2:* 1-2 weeks (72 hours).

Exhibit Dates: *Version 1:* 11/95–Present. *Version 2:* 1/90–10/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain a portable hydraulic power supply unit using proper tools, test equipment, and MRC cards. *Version 2:* Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain a portable hydraulic power supply unit using proper tools, test equipment, and MRC cards.

Instruction: *Version 1:* Lectures, performance exercises, and examinations cover hydraulic test stand systems and operations and portable hydraulic power supply systems and operation. *Version 2:* Lectures, performance exercises, and examinations cover hydraulic test stand systems and operations and portable hydraulic power supply systems and operation.

Credit Recommendation: *Version 1:* In the vocational certificate category, 1 semester hour aircraft support equipment maintenance (10/96). *Version 2:* In the vocational certificate category, 1 semester hour in aircraft support equipment maintenance (7/92).

NV-1704-0354

MEP-105A/009A Generator Set Intermediate Maintenance

Course Number: C-602-3272.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 11/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot a 60 kW, 120 volt, 60 Hertz diesel generator used to provide ground power to ground support equipment.

Instruction: Lectures, performance exercises, and examinations use meters and hand tools to troubleshoot and repair 60 Hertz diesel generators.

Credit Recommendation: In the vocational certificate category, 1 semester hour in power generation and 1 in electronic systems troubleshooting and maintenance (7/92).

NV-1704-0355

P-3C Integrated Electrical Systems Organizational Maintenance

Course Number: C-602-3571.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–6/92.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot aircraft lighting, fuel, engine and propeller control, APU, hydraulic, inertial navigation, automatic flight control, and pitch and roll systems.

Instruction: Lectures, practical exercises, and examinations cover the inspection, operation, repair, and replacement of the assemblies and units of the electrical systems; inertial navigation system; autopilot, including electrical power, lighting, and engine controls; fuel, oil, propeller, and fire detection systems; instruments; hydraulics; landing gear; and ice control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical control systems (7/92).

NV-1704-0356

A-6 Airframes and Hydraulic Organizational Maintenance

Course Number: C-602-3761.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify, inspect, troubleshoot, and repair the hydraulic main, sub, and emergency systems; identify and inspect the primary and auxiliary flight control systems; and identify, inspect, and troubleshoot the landing gear, brake, nose wheel steering, and emergency extension systems.

Instruction: Instruction consists of classroom lectures, audiovisual presentations, and laboratory experience. Written and performance examinations are used for student evaluation. Major topics are aircraft hydraulic system, flight control system, and landing gear system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulic systems, 2 in landing gear systems, and 1 in flight control systems (10/92).

NV-1704-0357

EA-6B ICAP 2 Communication, Navigation, and Radar Organizational Maintenance

Course Number: C-102-3990.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and analyze the communications and navigation systems of a particular aircraft under close supervision. The student will also perform limited maintenance on each system.

Instruction: Classroom lectures, laboratory demonstrations, and student workbooks are the methods of instruction. Applications include systems analysis and troubleshooting using test equipment and system diagrams.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in communications and navigation systems and 1 in aircraft electrical systems (10/92).

NV-1704-0358

EA-6B Electrical and Instrument Systems Consolidated Organizational Maintenance

Course Number: C-602-9744.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 6 weeks (240 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will be familiar with AC and DC power, exterior and interior lighting, warning lights, engine electrical and environmental control systems, ice and rain removal, fuel quantity, autopilot, and flight instruments and will be able, under close supervision, to inspect, troubleshoot, and do minor repairs to electrical components of these systems.

Instruction: Lectures and laboratory activities prepare the student for active practice work on the aircraft. System familiarization followed by laboratory practice is used to prepare students to analyze system and component malfunction and remove and replace components in the above systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications-navigation, 1 in flight control systems, 1 in hydraulic systems, 1 in fuel systems, and 1 in aircraft electrical systems (10/92).

NV-1704-0359

E-2/C-2 Aircraft Familiarization (Flight Crew)

Course Number: C-2A-3471.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 1-2 weeks (78 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain aircraft systems and their functions and demonstrate knowledge of cockpit layout.

Instruction: Classroom instruction includes mechanical, hydraulic, structural, electrical, and electronic systems and emergency systems and cockpit orientation of the specific aircraft.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft familiarization (12/92).

NV-1704-0360

E-2/C-2 Power Plants/Propeller and Related Systems Integrated Organizational Maintenance

Course Number: C-601-9472.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the function of power section components of aircraft turboshaft engines and be able to troubleshoot, remove, and reinstall accessory components of aircraft turboshaft engines including propeller systems.

Instruction: Lectures and practical exercises cover the theory of operation of turboshaft aircraft engines, including engine control systems, engine fuel systems, power section and reduction gear lubrication systems, ignition, cooling, starting, and temperature control. Course also includes a comprehensive study of propeller and propeller control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft turbine engine systems and 1 in aircraft propeller systems (12/92).

NV-1704-0361

Aircraft Hydraulic and Pneumatic Component Test Stand (HCT-10) and Limited Aircraft Component Intermediate Maintenance

Course Number: C-602-3191.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform bench test procedures, troubleshooting, and maintenance on selected aircraft components while under close supervision.

Instruction: Topics covered by lecture and laboratory methods include operational testing, troubleshooting, and maintaining hydraulic and pneumatic system components which include variable displacement pumps and brake and system accumulators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulic system bench testing (12/92).

NV-1704-0362

E-2/C-2 Aircraft Rigging Organizational Maintenance

Course Number: C-602-3471.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 3 weeks (12 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the operation of landing gear and related systems and wing fold and jury strut systems and rig and adjust landing gear and flight control systems.

Instruction: Methods of instruction include lectures and laboratory on aircraft hydraulic flight control and landing gear systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft hydraulic and pneumatic power systems (12/92).

NV-1704-0363

TF 30-P-414 Series Engine First Degree Intermediate Maintenance

Course Number: C-601-3898.

Location: Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the theory of operation, nomenclature, and maintenance, and, under supervision, disassemble, inspect, and reassemble turbofan engines.

Instruction: Topics covered in the classroom include turbofan engine nomenclature, lubrication, fuel, ignition, cleaning and inspection of engine parts, and inspection of subassemblies. Topics covered in the laboratories include fan section, hot section, engine disassembly, cleaning, inspection, and reassembly.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in turbofan engine maintenance (12/92).

NV-1704-0364

F-14D Electrical Integrated Systems Organizational Maintenance

Course Number: C-602-9893.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 11-12 weeks (443 hours).

Exhibit Dates: 11/92–6/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform systems analysis and troubleshooting of an aircraft electrical system, including power, lighting, engine monitoring, fire detection, and hydraulic interface.

Instruction: Methods include small group lectures with supervised laboratory. Emphasis is on testing and troubleshooting down to the subsystem level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft electrical troubleshooting and maintenance (12/92).

NV-1704-0365

C-2A Electrical and Instruments Integrated Organizational Maintenance

Course Number: C-602-9495.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and troubleshoot typical aircraft electrical distribution and instrumentation systems, including AC and DC power distribution, lighting, engine instrumentation and wiring, air conditioning, and autoflight controllers.

Instruction: Methods include group-paced instruction using workbooks and demonstrations. Emphasis is on fault diagnosis and on subassembly removal and replacement.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft/instrumentation systems and 1 in electronic systems troubleshooting and maintenance (12/92).

NV-1704-0366

E-2 Electrical and Instruments Integrated Organizational Maintenance

Course Number: C-602-9479.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and troubleshoot typical aircraft electrical distribution and instrumentation systems, including AC and DC power distribution, lighting, engine instrumentation and wiring, air conditioning, and autoflight controllers.

Instruction: Methods include group-paced instruction using workbooks and demonstrations. Emphasis is on fault diagnosis and subassembly removal and replacement.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft/instrumentation systems and 1 in electrical systems troubleshooting and maintenance (12/92).

NV-1704-0367

F-14A/A+ Wing Surface Control System
Rigging Organizational Maintenance

Course Number: C-602-3902.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 11/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational testing, troubleshooting, and fundamental rigging procedures on wing flaps, slats, and spoilers.

Instruction: Topics covered, using classroom and laboratory methods, include the operational testing, troubleshooting, and rigging of wing flaps, slats, and spoilers. Lectures also cover associated auxiliary devices.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in flight surface control rigging and maintenance (12/92).

NV-1704-0368

E-2C Navigation System Technician
Integrated Organizational
Maintenance

Course Number: C-602-9483.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply principles of operation and troubleshoot, remove, replace, and test aircraft onboard inertial navigation system components including attitude reference systems.

Instruction: Lectures and laboratory presentations detail component functions and input/output relationships within the aircraft inertial navigation system, including power supply, sensing, alignment, and interface of avionic components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft navigation systems (12/92).

NV-1704-0369

E-2/C-2 Airframe and Hydraulics Systems
Integrated Organizational
Maintenance

Course Number: C-602-9478.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 4-5 weeks (192 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, test, remove, and replace hydraulically operated landing gear and airframe components.

Instruction: Topics covered in classroom and laboratory include maintenance, operational testing, troubleshooting, removing and replacing hydraulic pumps, accumulators, flight control surface actuation devices, nose and main landing gear actuation devices, and brake and tire assemblies. Also covered is the operational testing and theoretical troubleshooting of the nose wheel steering, emergency gear, and windshield wiper systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in hydraulic power systems and 2 in landing gear systems (12/92).

NV-1704-0370

T56-A-425/426 Engine Second Degree
Intermediate Maintenance

Course Number: C-601-3134.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to disassemble, inspect, and reassemble a turboshaft aircraft engine.

Instruction: Lectures and laboratory exercises cover identification of engine components; engine preservation; and disassembly, inspection, and reassembly of major engine sections, including reduction gear, compressor, diffuser, turbine, and accessory section.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft turbine engines (12/92).

NV-1704-0371

C-2A (Reprocured) Avionics Systems
Integrated Organizational
Maintenance

Course Number: C-102-9496.

Location: Air Maintenance Training Group Detachment, Norfolk, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 5-6 weeks (232 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain aircraft communications, navigation, and radar systems, including troubleshooting, testing, removing, and replacing system components.

Instruction: Lectures and laboratories cover the basic principles of operating, testing, and troubleshooting of LF, HF, VHF, and UHF communications and navigation systems and various radar systems. Also included is a study of internal communications and public address systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft avionics systems (12/92).

NV-1704-0372

F-14D Armament Systems Integrated
Organizational Maintenance

Course Number: C-646-9905.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 2/92–6/96.

Learning Outcomes: Upon completion of the course, the student will be able to explain nomenclature, theory, and function of the armament system and test and troubleshoot under minimal supervision.

Instruction: Topics covered include theory of operation, inspection, functional testing, and troubleshooting of the armament and gun systems. Using the same classroom and laboratory methods, the student will learn to meet mission configuration requirements and perform loading and downloading of these systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (12/92).

NV-1704-0374

1. T56-A-14 First Degree Intermediate
   Maintenance
2. T56-A-10/14 First Degree Intermediate
   Maintenance

Course Number: *Version 1:* C-601-3574A. *Version 2:* C-601-3574.

Location: *Version 1:* Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA; Air Maintenance Training Group, Jacksonville, FL. *Version 2:* Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: *Version 1:* 7-8 weeks (200 hours). *Version 2:* 4-5 weeks (160-200 hours).

Exhibit Dates: *Version 1:* 1/96–Present. *Version 2:* 1/90–12/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the theory of operation and component relationships of turboshaft engines and disassemble, inspect, and reassemble the entire engine package. Course includes fuel and oil systems path of flow, bleed air, ignition, and temperature datum systems operation. *Version 2:* Upon completion of the course, the student will be able to describe the theory of operation and component relationships of turboshaft engines and disassemble, inspect, and reassemble the entire engine package.

Instruction: *Version 1:* Lectures and laboratory place emphasis on laboratory disassembly, inspection, and reassembly of engine gas producer, power, reduction gear, and accessory sections. *Version 2:* Lectures and laboratory place emphasis on laboratory disassembly, inspection, and reassembly of engine gas producer, power, reduction gear, and accessory sections.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft turbine engine theory, maintenance, and major overhaul (10/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft turbine engine theory, maintenance, and major overhaul (3/93).

NV-1704-0375

P-3A/B Integrated Electrical System
Organizational Maintenance

Course Number: C-602-3535.

Location: Air Maintenance Training Group, Moffett Field, CA.

Length: 5-6 weeks (235 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and operation of aircraft electrical systems and repair and test individual components.

Instruction: Lectures cover electrical power generation and distribution, lighting, system instrumentation, propeller synchrophasing, engine starting, ice control, flight control, and autopilot system. Course includes extensive laboratories.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft electrical systems (3/93).

NV-1704-0376

P-3A/B Ordnance Systems Organizational Maintenance

Course Number: C-646-3531.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 2-3 weeks (104 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand the operation and servicing requirements of aircraft ordnance systems.

Instruction: Lectures and laboratories cover aircraft ordnance systems, including bomb bay, search, and camera system operation.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/93).

NV-1704-0377

P-3C Integrated Electrical System Integrated Organizational Maintenance

Course Number: C-602-9571.

Location: Air Maintenance Training Group, Moffett Field, CA; Air Maintenance Training Group, Jacksonville, FL.

Length: 9-10 weeks (384 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect and troubleshoot AC and DC electrical systems and navigation and automatic flight control systems on an aircraft.

Instruction: Lectures and laboratories use audiovisuals, publications, tools, test equipment, and trainers. Topics include AC/DC electrical systems, lighting system, auxiliary power unit, engine control instrumentation, engine temperature and oil system, cabin environmental system, engine emergency systems, fire detection, ice and rain control, and hydraulic and fuel systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in aircraft electrical systems (3/93).

NV-1704-0378

P-3 Engine Driven Compressor Intermediate Maintenance

Course Number: C-601-3576.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory of operation and maintain an engine-driven compressor system used for environmental control system in an aircraft, including component balancing, overhaul, and testing.

Instruction: Lectures and laboratory exercises cover the identification, operation, and overhaul of environmental compressor system, including disassembly, individual component testing, and reassembly. Course includes propeller balancing and overhaul of individual components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft environmental control systems (3/93).

NV-1704-0379

P-3C Flight Engineer System Familiarization

Course Number: C-050-3531.

Location: Reserve Antisubmarine Warfare Training Center, Willow Grove, PA; Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 11/90–Present.

Learning Outcomes: Before 11/90 see NV-1704-0048. Upon completion of the course, the student will be able to describe the theory and operation of all aircraft systems, including electrical, environmental, power plant and related systems, communications, navigation, ice and rain control, and emergency.

Instruction: Lectures and practical exercises cover aircraft systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in aircraft systems theory and operation (3/93).

NV-1704-0380

P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance

(P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance)

Course Number: C-603-9531; C-603-3531.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3-5 weeks (120-176 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe basic aircraft structures, including wings, flight controls, fuselage, and landing gear. Student will be able to maintain fuel tanks and windshield and aircraft hydraulic systems, including servicing, removing, and replacing components such as pumps, control valves, and actuating components.

Instruction: Lectures and laboratory presentations use transparencies, mock-ups, and actual aircraft to show location, operation, servicing, and removal and replacement of specific components such as hydraulic components, flight controls, fuel tanks, windshields, landing gear, and brake components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic aircraft hydraulic systems and 1 in aircraft structures (3/93).

NV-1704-0382

Auxiliary Power Unit First Degree Intermediate Maintenance Repair

Course Number: C-601-3868.

Location: Air Maintenance Training Group, Lemoore, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, disassemble, and repair the auxiliary power unit under close supervision.

Instruction: Lectures, visual aids, technical manuals cover the complete disassembly and reassembly of the power unit.

Credit Recommendation: In the vocational certificate category, 1 semester hour in jet engine maintenance (8/93).

NV-1704-0383

F/A-18 Power Plants and Related Systems Organizational Maintenance

Course Number: C-601-3866.

Location: Air Maintenance Training Group, Lemoore, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under supervision, organizational maintenance on an aircraft fuel system, secondary power system, and engine system including applicable test and support equipment.

Instruction: Lectures and practical exercises cover maintaining the F404-GE-400 engine, F/A-18 fuel systems, and secondary power system.

Credit Recommendation: In the vocational certificate category, 2 semester hours (1 in theory and 1 in laboratory) in jet engine maintenance (8/93).

NV-1704-0384

F/A-18 Combined Electronics Systems Consolidated Organizational Maintenance

Course Number: C-102-9963.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 16 weeks (472 hours).

Exhibit Dates: 4/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform organizational maintenance of communications, navigation, electronic warfare, and weapons delivery systems under close supervision.

Instruction: Lectures and practical exercises use military-specific test equipment for installed equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours (1 theory and 1 laboratory) in aircraft systems (8/93).

NV-1704-0385

F/A-18 Hydraulic/Structures Mechanic Organizational Maintenance

Course Number: C-603-3866.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 5 weeks (184 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to maintain the hydraulic power related systems and structures on the F/A-18 aircraft, under close supervision, in the operational and small shop environment.

Instruction: Presented through lectures, with limited practical exercises, topical content includes an introduction to test and support equipment and related maintenance practices applicable to operating, troubleshooting, and maintaining flight control and aircraft systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours (2 lecture and 1 laboratory) in aircraft hydraulic systems maintenance (8/93).

NV-1704-0386

F/A-18 Aviation Hydraulic/Structure Mechanic Consolidated Organizational Maintenance

Course Number: C-603-9974.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 9 weeks (280 hours).

Exhibit Dates: 6/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspection, service, and maintain hydraulic powered aircraft structures and systems, under close supervision, in a small shop or operational environment.

Instruction: Provided through a balance of lectures and practical exercises, topical content includes inspection, operation, service, and maintenance of aircraft hydraulic systems and components.

Credit Recommendation: In the vocational certificate category, 4 semester hours (2 lecture and 2 laboratory) in aircraft hydraulic systems maintenance (8/93).

NV-1704-0387

F404-GE-400 Engine First Degree Intermediate Maintenance

Course Number: C-601-3867.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 8/90–Present.

Learning Outcomes: Upon completion of the course, the student will have a fundamental knowledge of the F404-GE-400 jet engine and accessory inspection, disassembly, assembly, and installation.

Instruction: Through a combination of class lectures and laboratories, demonstration, and performance, the student will perform shop maintenance actions on turbofan engines. Topical areas include an introduction to jet engine operating principles and covers engine modules, systems, and accessories.

Credit Recommendation: In the vocational certificate category, 3 semester hours (1 lecture and 2 laboratory) in jet engine maintenance (8/93).

NV-1704-0388

F/A-18 Power Plants and Related Systems Integrated Organizational Maintenance

Course Number: C-601-9974.

Location: Air Maintenance Training Group, Lemoore, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use applicable test and support equipment to perform organizational maintenance on the F/A-18 aircraft fuel system, secondary power system, and engine system under supervision.

Instruction: Lectures and practical exercises cover maintaining the F404-GE-400 engine, F/A-18 fuel system, and secondary power system.

Credit Recommendation: In the vocational certificate category, 3 semester hours (1 theory and 2 laboratory) in jet engine maintenance (8/93).

NV-1704-0389

LSD-41 Propulsion Operator

Course Number: A-652-0307.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the propulsion control console of a controllable-pitch diesel-driven vessel.

Instruction: Lectures, demonstrations, and practical exercises are used to teach descriptive knowledge of a controllable-pitch propeller and hydraulic control system and its associated normal and emergency operating procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in applied hydraulics control laboratory (7/95).

NV-1704-0390

FFG-7 Fin Stabilizer Systems
(Basic Hydraulics for FFG-7 Auxiliaries)

Course Number: *Version 1:* A-652-0164. *Version 2:* A-652-0164.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 3 weeks (120 hours). *Version 2:* 3-4 weeks (120-160 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 1/92–12/93.

Learning Outcomes: *Version 1:* Before 1/94 see NV-1704-0269. Upon completion of the course, the student will be able to describe the basics of fluid power and hydraulic systems and basic theory of static hydraulic system components, including fluid statics, hydraulic fluid properties, reservoirs, accumulators, filters, strainers, pumps, seals, and valves and troubleshoot hydraulic systems. *Version 2:* Upon completion of the course, the student will be able to describe the basics of fluid power and hydraulic systems and basic theory of static hydraulic system components, including fluid statics, hydraulic fluid properties, reservoirs, accumulators, filters, strainers, pumps, seals, and valves and troubleshoot hydraulic systems.

Instruction: *Version 1:* Course includes topics in troubleshooting and repairing hydraulic power systems and extensive laboratory work. *Version 2:* Course includes topics in troubleshooting and repairing hydraulic power systems and extensive laboratory work.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in hydraulic machinery repair and troubleshooting (7/95); in the lower-division baccalaureate/associate degree category, 1 semester hour in fluid statics/basic hydraulics and 1 in hydraulics laboratory (7/95). *Version 2:* In the vocational certificate category, 4 semester hours in hydraulic machinery repair and troubleshooting (10/93); in the lower-division baccalaureate/associate degree category, 1 semester hour in fluid statics/basic hydraulics and 1 in hydraulics laboratory (10/93).

NV-1704-0391

FFG-7 Auxiliary Mechanical System Technician

Course Number: A-652-0233.

Location: Service School Command, Great Lakes, IL.

Length: 15-18 weeks (640-720 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and repair mechanical systems, including diesel, pallet elevators, fin stabilizers, and auxiliary equipment.

Instruction: This pipeline consists of A-652-0152, Introduction to Engineering Systems Maintenance and Management (Engineering Systems Maintenance Management); A-652-0164, FFG-7 Fin Stabilizer Systems (Basic Hydraulics for FFG-7 Auxiliaries) (Hydraulics/Fin Stabilizer System); A-652-0158, FFG-7 Auxiliary Mechanical Systems Maintenance (Auxiliary Mechanical Systems); and A-652-0167, Diesel Engine/Waste Heat FFG-7 (Waste Heat System/16V149TI Diesel Engine).

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (1/96).

NV-1704-0392

H-46E (SR&M) Hydraulic Systems Organizational Maintenance

Course Number: C-603-3419.

Location: Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, New River, NC.

Length: 3-4 weeks (130 hours).

Exhibit Dates: 8/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify and operate basic hydraulic systems, troubleshoot and replace components, and maintain and service auxiliary systems.

Instruction: Course covers the main and auxiliary hydraulic systems for large twin-rotor helicopter, including systems layout; component identification and function; hydraulic pumps, motors, fittings, and control devices related to rotor; cargo handling; engine starting; flight controls and main landing gear; actuation; and braking. Methodology includes lectures, demonstrations, and laboratory work using mock-ups and live components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in fluid power systems (7/94).

NV-1704-0393

H-46 Automatic Flight Control Systems (AFCS) Organizational Maintenance

Course Number: C-602-3428.

Location: Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, New River, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, maintain, and service automatic flight control systems.

Instruction: Course covers automatic flight control system theory of operation; aircraft flight controls, including manual, electro, and hydraulic actuated; sensing devices, including Pitot-static, navigation radio, and Doppler inputs; and troubleshooting of entire system. Methodology includes lectures and laboratories with demonstrations using mock-ups, test equipment, and live aircraft systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in helicopter flight controls (7/94).

NV-1704-0394

H-46E MECHANICS ORGANIZATIONAL MAINTENANCE COURSE, CLASS C1

Course Number: C-600-3422.

Location: Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, New River, NC.

Length: 6-7 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform organizational maintenance on H-46E landing gear, hydraulic systems and subsystems, power plant, engine electrical system, rotor system, and all related systems.

Instruction: Course covers maintenance of H-46 landing gear, power plant, rotor, drive, flight control, and utility systems and electrical and hydraulic systems. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in rotorcraft systems maintenance, 1 in basic hydraulics, and 1 in aircraft power plants (7/94).

NV-1704-0395

H-46 FIBERGLASS ROTOR BLADE REPAIR INTERMEDIATE MAINTENANCE

Course Number: C-600-3420.

Location: Air Maintenance Training Group, New River, NC.

Length: 2 weeks (76 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform damage evaluation and repair fiberglass rotor blades; identify and use solvents; implement safety precautions, and have sufficient knowledge of H-46 fiberglass rotor blade construction to perform repair on the intermediate maintenance level.

Instruction: Course covers H-46 fiberglass rotor blade damage evaluation and repair procedures with emphasis on safety. Methodology includes lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in fiberglass repair (7/94).

NV-1704-0396

H-46 FIBERGLASS ROTOR BLADE REPAIR INTERMEDIATE MAINTENANCE

Course Number: C-600-3419.

Location: Air Maintenance Training Group, New River, NC.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to evaluate damage and repair fiberglass rotor blades; identify adhesives and solvents; distinguish between fiberglass and metal rotor blades; and implement safety precautions on the H-46 helicopter at the organizational maintenance level.

Instruction: Course covers H-46 fiberglass rotor blade damage evaluation and repair procedures with emphasis on safety. Methodology includes lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in fiberglass repair (7/94).

NV-1704-0397

F402-RR-406A ENGINE INTERMEDIATE MAINTENANCE

Course Number: C-601-3889.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand the theory of operation of the F402-RR-406A engine and be able to removal, repair, and maintain the entire engine package.

Instruction: Course covers the theory of operation of the RR-406A turbofan engine, including engine airflow and component location and function and engine section function, including entire engine removal, disassembly, repair, and maintenance. Methodology includes lectures with demonstrations using mock-ups and laboratory work with airworthy engines and components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in aircraft turbine engine maintenance (7/94).

NV-1704-0398

AV-8B AIRCRAFT MECHANIC INTEGRATED ORGANIZATIONAL

Course Number: C-600-9889.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 10-11 weeks (408 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance on the AV-8B aircraft, fuel system, and power plant on the organizational level.

Instruction: Course covers safety, ground handling, fuel systems, theory, operation, maintenance, and aircraft inspections on AV-8B aircraft. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in aircraft fuel systems, 4 in aircraft turbine engines, 2 in aircraft engine airworthiness inspection, and 1 in aircraft ground operations (7/94).

NV-1704-0399

AV-8B AIRCRAFT COMMUNICATION/NAVIGATION/IDENTIFICATION ELECTRONIC COUNTERMEASURES/WEAPONS SYSTEM SPECIALIST INTEGRATED ORGANIZATIONAL MAINTENANCE

Course Number: C-102-9895.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 12 weeks (480 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will understand the theory of operation and the functions of the AV-8B communications/navigation/weapons systems and will troubleshoot and maintain the COM/NAV systems.

Instruction: Course covers the basic theory of operation of onboard AV-8A communication/navigation/weapons systems, aircraft sheath, onboard mission computer system, communications, navigation, countermeasures, and night operations including radar and Doppler systems. Methodology includes lectures and laboratory demonstrations using mock-ups and maintenance of airworthy aircraft, applying appropriate troubleshooting and testing equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft communications and navigation systems maintenance (7/94).

NV-1704-0400

AV-8B AIRCRAFT STRUCTURES MECHANIC INTEGRATED ORGANIZATIONAL MAINTENANCE

Course Number: C-603-9887.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 7-8 weeks (302 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the structure, flight controls, and landing gear systems on the AV-8B aircraft at the organizational maintenance level.

Instruction: Course covers technical manuals, aircraft ground handling, structures, and flight controls, principles of operation, testing and troubleshooting, and landing gear operation and maintenance. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft structural mechanic, 1 in aircraft landing gears, and 2 in aircraft assembly and rigging (7/94).

NV-1704-0401

AV-8B AIRCRAFT SAFETY EQUIPMENT MECHANIC INTEGRATED ORGANIZATIONAL MAINTENANCE

Course Number: C-602-9888.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 5-6 weeks (236 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and maintain the safety equipment and environmental control systems on the AV-8B aircraft at the organizational maintenance level.

Instruction: Course covers technical manuals, safety, aircraft ground handling procedures, environmental control systems, cabin cooling and defog, cabin pressurization, avionics, cooling, canopy seal and anti-G, and oxygen generating system. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft cabin atmosphere control systems (7/94).

NV-1704-0402

AV-8B Aircraft Hydraulic/Pneumatic Mechanic Integrated Organizational Maintenance

Course Number: C-603-9889.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 4 weeks (160 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect, troubleshoot, and repair AV-8B hydraulic and pneumatic power systems.

Instruction: Course covers AV-8B hydraulic and pneumatic power systems, hydraulic pumps, motors, actuators, fittings and tubing repair, replacement systems, hydraulic power generation, flight control systems, landing gear systems, nose wheel steering, and antiskid components. Methodology includes lectures and laboratory experiences using mock-ups and live aircraft demonstrations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft fluid power system maintenance and repair (7/94).

NV-1704-0403

AV-8B Aircraft Ordnance Technician Integrated Organizational Maintenance

Course Number: C-646-9888.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 4-5 weeks (187 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the armament system at the organizational maintenance level.

Instruction: Course covers safety, ground handling, and general knowledge of the AV-8 aircraft and operation and maintenance of the armament system. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft ground operations and handling (7/94).

NV-1704-0404

AV-8B Aircraft Electrical Systems Technician Integrated Organizational Maintenance

Course Number: C-602-9887.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 11-12 weeks (470 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the student will understand the theory of operation and troubleshooting and maintenance practices for the AV-8B electrical system.

Instruction: Course covers AV-8B basic electrical system for aircraft power generation, lighting, environmental control, landing gear, braking, flight controls, and engine operation and monitoring. Methodology includes lectures and laboratory demonstrations using mock-ups and training devices.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft electrical system (7/94).

NV-1704-0405

Fixed Wing Electrical/Instrument Systems Intermediate Maintenance

Course Number: C-602-4893.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 4 weeks (160 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Upon completion of the course, the student will understand theory of operation and component function and be able to troubleshoot AV-8B/ F/A 18 electrical power generation systems.

Instruction: Course covers the theory of operation, testing, troubleshooting, and maintenance of AV-8B/F-18 electrical power generating systems, including MA-3 generator test stand, flight control sensors, and sealed lead acid battery. Methodology includes lectures and laboratories using demonstrations and mock-ups.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft electrical power generation systems (7/94).

NV-1704-0406

F402-RR-408 Engine Intermediate Maintenance

Course Number: C-601-3891.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 14 weeks (400 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to remove, repair, and maintain the RR-408 turbofan engine.

Instruction: Course covers the RR-408 turbofan engine, including the operation, function, removal, repair, and maintenance practices of the individual engine sections and the entire engine package. Methodology includes lectures and laboratory demonstrations using mock-ups and airworthy engines and components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in aircraft turbine engine maintenance (7/94).

NV-1704-0407

AV-8B Aircraft Communication/Navigation/Weapons System Specialist Organizational Maintenance

Course Number: C-102-9895.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 19 weeks (532 hours).

Exhibit Dates: 9/94–Present.

Learning Outcomes: Upon completion of the course, the student will understand the theory of operation and practical function of the AV-8B communications/navigation/weapons systems and be able to troubleshoot and maintain communications/navigation systems.

Instruction: Course covers the basic theory of operation of onboard AV-8B communications/navigation/weapons systems, including aircraft safety, onboard mission computer system, communications, navigation, countermeasures, and night operations including radar and Doppler systems. Methodology includes lectures and laboratory demonstrations using mock-ups and airworthy aircraft using appropriate troubleshooting and testing equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft communications and navigation systems maintenance (7/94).

NV-1704-0408

Aviation Armament Equipment Repair Intermediate Maintenance

Course Number: C-646-3126.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 4-5 weeks (184 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect, test, and repair release and suspension equipment, missile launchers, and gun systems associated with fighter/attack aircraft at the intermediate maintenance level.

Instruction: Course covers technical publications, corrosion control, multimeters, airborne guided missile launchers, ejector racks, multiple bomb racks, loading and downloading, and safety precautions. Methodology including classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/94).

NV-1704-0409

AN/ASW-40, 41, and 42 Automatic Flight Control System Intermediate Maintenance

Course Number: C-602-3941.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3-4 weeks (149 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the purpose and theory of automatic flight control systems and components and perform bench testing and troubleshooting of electronic modules using schematics, drawings, multimeters, oscilloscopes, and automatic flight control test equipment.

Instruction: Lectures and practical exercises focus on the specific parts of the flight control system. Troubleshooting techniques are emphasized.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in theory of integrated automatic flight control systems and 1 in integrated automatic flight control systems laboratory (10/94).

NV-1704-0410

EA-6B Safety Equipment Organizational Maintenance

Course Number: C-602-9743.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 4-5 weeks (164 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the students will be able to inspect aircraft liquid and gaseous oxygen systems; practice safety precautions associated with oxygen systems and servicing of the systems; check the operation of the cabin environmental systems, including pressurization, temperature, and emergency escape systems; check the operation of the windshield rain and antifog systems; and practice safety precautions associated with operating these systems.

Instruction: Students receive 79 hours of theory covering EA-6B oxygen and canopy systems, escape and survival systems, and environmental control systems. Students receive 85 hours of practical application consisting of 25 hours laboratory and 60 hours of actual aircraft maintenance experience. Practical experience is divided into 12 hours of oxygen and canopy systems, 45 hours of escape and survival systems, and 24 hours of environmental control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours aircraft environmental, life support, and ice/rain control systems (10/94).

NV-1704-0411

EA-6B Hydraulic/Structures Systems
Integrated Organizational
Maintenance

Course Number: C-602-9741.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe systems operation and the purpose and locations of components, including aircraft wheels, brakes, landing gear, nose wheel steering, and flight control surfaces and actuators. In addition, students will be able to perform rigging checks and adjustments to landing gear, nose wheel steering, and flight control surfaces on actual aircraft.

Instruction: Lectures and practical applications include removal, installation, and rigging of wheels, brakes, and flight control surfaces.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in theory of aircraft wheels, brakes, and flight control maintenance (on the aircraft) and 1 in laboratory in aircraft wheels, brakes, and flight control maintenance (on the aircraft) (10/94).

NV-1704-0412

Aircraft Nondestructive Inspection
Technician

Course Number: C-603-3191.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 14-15 weeks (590-591 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform nondestructive inspection with minimal supervision aboard ship, at shore activities, and at Marine Corps aviation activities.

Instruction: Group-paced instruction teaches aircraft maintenance personnel to perform nondestructive inspections. The curriculum includes instruction in theory and practical performances of liquid penetrant, magnetic particles, eddy current, ultrasonics, and radiographic and composite material inspections. Theory, principles, and applications of optical inspection, gaseous leak detection, electrical conductivity measurement, and ultrasonic leak detection equipment are included. Safety is emphasized in all areas.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in aircraft maintenance nondestructive inspection, 2 in radiology inspection, 3 in basic metals and material processes, and 2 in industrial safety (1/97).

NV-1704-0413

Air Traffic Control Maintenance
Preparatory

Course Number: C-103-2045.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 1-2 weeks (77 hours).

Exhibit Dates: 4/93–Present.

Learning Outcomes: Upon completion of the course, the student will be understand basic entry-level maintenance interface principles.

Instruction: Course includes lectures and laboratories in identifying electronic equipment safety precautions and air traffic control electronic equipment operations.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/95).

NV-1704-0414

Amphibious Air Traffic Control Center
Operations, Class C1

Course Number: C-222-2019.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (200 hours).

Exhibit Dates: 6/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to practice prescribed air traffic procedures, coordination, and equipment operation in amphibious air traffic control centers.

Instruction: Course includes lectures and laboratories in air traffic control operation and air traffic control phraseology.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in air traffic control operations (11/95).

NV-1704-0415

Carrier Air Traffic Control Center
Operations

Course Number: C-222-2012.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5-6 weeks (236 hours).

Exhibit Dates: 3/94–Present.

Learning Outcomes: Upon completion of the course, the student will have a basic knowledge of carrier administration, watch station functions, and typical equipment. In addition, the student will have a knowledge of procedures, phraseology, and equipment use in a carrier air traffic control center simulated launch/recovery operation.

Instruction: Lectures, laboratories, and performance exercises cover carrier air traffic control center organization, message/reports, launching and recovering aircraft equipment, air operations, and move and control procedures on aircraft carriers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in record systems management (11/95).

NV-1704-0416

Aviation Boatswain's Mate Aircraft
Handling Advanced, Class C1

Course Number: C-780-2013.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 6-7 weeks (255-265 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to provide a leadership role during shipboard or shore based aircraft fire fighting and salvage operations. The student will also demonstrate supervisory skills in shipboard administration and aircraft handling.

Instruction: Lectures and performance exercises cover aircraft fire fighting and rescue fundamentals, theory of fire, extinguishing agents, and equipment. Procedures for rescue and hazardous material awareness are included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in heavy equipment operation, 2 in aircraft ground handling, and 2 in industrial safety (1/97).

NV-1704-0417

Aviation Boatswain's Mate Aircraft
Handling, Class A1

Course Number: C-822-2010.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5-6 weeks (219 hours).

Exhibit Dates: 8/93–Present.

Learning Outcomes: Before 8/93 see NV-1728-0020. Upon completion of the course, the student will be able to assist in aircraft ground maneuvering and in fire fighting with direct supervision on shore or at sea.

Instruction: Lectures and performance exercises cover aircraft ground maneuvering and fire fighting techniques.

Credit Recommendation: In the vocational certificate category, 1 semester hour in heavy equipment operation (1/97); in the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft ground handling and 2 in industrial safety (1/97).

NV-1704-0418

Aviation Boatswain's Mate Fuels, Class C2
(Aviation Fuel System, Class C2)

Course Number: C-8B-2010.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 1-2 weeks (60 hours).

Exhibit Dates: 12/94–Present.

Learning Outcomes: Upon completion of the course, the student will possess the necessary knowledge to qualify as aviation fuel officer for shipboard fuel system.

Instruction: The course emphasizes administration of the V-4 division, environmental protection, and theory and operation of both JP-5 and automotive gasoline systems afloat. Safety and quality assurance of aviation fuels are stressed.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/98).

NV-1704-0419

ENGINEERING HYDRAULIC SYSTEMS AND COMPONENTS BASIC

Course Number: K-652-2146.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (104 hours).

Exhibit Dates: 4/95–Present.

Learning Outcomes: Before 4/95 see NV-1704-0264. Upon completion of the course, the student will be able to describe and repair basic hydraulic systems and components.

Instruction: Methods of instruction include lectures and hands-on exercises. Topics covered include static hydraulic systems and components; basic static fluid physics; reservoirs; filters; strainers; control valves; accumulators; packing seals; positive, nonpositive, and variable displacement pumps; and hydraulic system troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic hydraulics (11/95).

NV-1704-0420

ENGINEERING MECHANICAL CORE

Course Number: A-651-0120.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (144 hours).

Exhibit Dates: 3/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic propulsion equipment and components, perform basic maintenance functions on propulsion auxiliary equipment, and safely operate propulsion auxiliary equipment.

Instruction: Lectures, laboratory training, and practical exercises cover power plant operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in power plant operation and maintenance (12/95).

NV-1704-0421

ADVANCED RADAR AIR TRAFFIC CONTROL, CLASS C1

Course Number: *Version 1:* C-222-2022. *Version 2:* C-222-2022.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 6 weeks (240 hours). *Version 2:* 9 weeks (360 hours).

Exhibit Dates: *Version 1:* 4/95–Present. *Version 2:* 9/92–3/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have acquired an advanced understanding of terminal radar approach control procedures, airspace management, and navigation equipment, and will have a basic knowledge of terminal enroute radar procedures (TERPS). Student will have technical knowledge and practical application of procedures used at various positions in air traffic control facilities. *Version 2:* Upon completion of the course, the student will have acquired an advanced understanding of terminal radar approach control procedures, airspace management, and navigation equipment, and will have a basic knowledge of terminal enroute radar procedures (TERPS). Student will have technical knowledge and functional application of procedures used at various positions in air traffic control facilities.

Instruction: *Version 1:* Through a combination of 84 lecture hours and 156 laboratory hours, the student is trained in all aspects of air traffic control with an emphasis on radar and nonradar control, and of sequencing and separation of aircraft in the national airspace system. *Version 2:* Through a combination of 91 lecture hours and 269 laboratory hours, the student is trained in all aspects of air traffic control with an emphasis on radar and nonradar control, and of sequencing and separation of aircraft in the national airspace system.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in national airspace system (1/96); in the upper-division baccalaureate category, 3 semester hours in air traffic control (1/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in national airspace system (1/96); in the upper-division baccalaureate category, 6 semester hours in air traffic control (1/96).

NV-1704-0422

MARINE AIR TRAFFIC CONTROL AND LANDING SYSTEM ADVANCED OPERATOR, CLASS M3

(Marine Air Traffic Control and Landing System Advanced Operator)

Course Number: C-2G-2018; C-2G-2018-M4.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 4 weeks (160 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will have been provided with comprehensive training on the employment and operation of the marine air traffic control and landing systems (MATCALS) and the development of terminal instrument approach procedures (TERPS). Work performed will be at the supervisor level in a highly mobile environment.

Instruction: Through a blending of 31 hours of lecture and 129 hours of laboratory, students gain in-depth understanding of construction and design of instrument approach procedures and are introduced to related aspects of air traffic control.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory air traffic control (8/96).

NV-1704-0423

AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT ARRESTING GEAR

Course Number: C-604-2029.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 3-4 weeks (145 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the Mark 7 arresting gear under minimum supervision.

Instruction: Includes lectures and performance exercises to provide knowledge and guidance needed to operate the Mk 7 arresting gear.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/96).

NV-1704-0424

AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT C7/11 CATAPULT, CLASS C1

Course Number: C-604-2010.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 4 weeks (149-190 hours).

Exhibit Dates: 1/90–1/96.

Learning Outcomes: Upon completion of the course, the student will have the minimum technical knowledge necessary to operate the C7/11 catapult in all operating conditions.

Instruction: Lectures and practical performance exercises to provide the necessary technical knowledge and skills required for operation of the C7/11 catapult.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/96).

NV-1704-0425

AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT MAINTENANCE TECHNICIAN, CLASS C1

Course Number: C-604-2028.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 11-12 weeks (457 hours).

Exhibit Dates: 2/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance on aircraft launch (catapult) and aircraft recovery equipment (arresting gear) and complete associated maintenance tasks. Under limited supervision, using approved instructions and publications, student will also demonstrate safety compliance and tool use.

Instruction: During a combination of lecture (141 hours) and laboratory (316 hours), the student will be introduced to maintenance programs, practices, maintenance administration, and safety procedures and practices. The student will be afforded the opportunity to perform maintenance on catapults and associated equipment and aircraft recovery equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in heavy equipment maintenance and 3 in maintenance shop practices (1/96).

NV-1704-0427

TRIDENT DEFENSIVE WEAPONS ORDNANCE SUBSYSTEM AND MAINTENANCE

Course Number: A-123-0178.
Location: Trident Training Facility, Bangor, Bremerton, WA.
Length: 3 weeks (112-120 hours).
Exhibit Dates: 8/95–Present.

Learning Outcomes: Before 8/95 see NV-1704-0276. Upon completion of the course, the student will be able to operate and maintain torpedo and torpedo handling equipment.

Instruction: Lectures and practical exercises cover torpedo system operation, including applications of mechanical, pneumatic, and fluid equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electromechanical systems application (4/96); in the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical and fluid system applications laboratory (4/96).

NV-1704-0428

Trident High Pressure and Low Pressure Air Compressor and Dehydrator Advanced Maintenance

Course Number: A-652-0343.
Location: Trident Training Facility, Bangor, Bremerton, WA.
Length: 2 weeks (64 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain high-and low-pressure air compressors or high-pressure air dryer and a low-pressure air-dehydrator.

Instruction: Lecture and laboratory instruction cover the operation and maintenance of high-and low-pressure air compressors, or high-pressure air dryer and low-pressure air dehydrator.

Credit Recommendation: In the vocational certificate category, 2 semester hours in hydraulics operation and maintenance (4/96).

NV-1704-0429

Aviation Machinist Mate Common Core, Class A1

Course Number: C-601-2011.
Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.
Length: 4 weeks (160 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the common core, the student will be able to perform as an apprentice jet power plants and related systems mechanic at fleet and shore activities.

Instruction: This common core training covers technical publications, corrosion control, composites, gas turbine engines, and aircraft and engine electrical and fuel systems.

Credit Recommendation: The credit recommendation for the common core is included in the strand training programs. See the individual courses (1/97).

NV-1704-0430

Aviation Machinist Mate Helicopter Fundamentals Strand, Class A1

Course Number: C-601-2012.
Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.
Length: 2 weeks (80 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an apprentice helicopter power plants and related systems mechanic at fleet and shore activities.

Instruction: This course covers helicopter power plants and systems, auxiliary power units, and ground support equipment. Methodology includes classroom lectures and practical exercises. Students will have completed Aviation Machinist Mate Common Core, Class A1 (C-601-2011).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft corrosion control, 1 in aviation physics, and 3 in gas turbine engines (1/97).

NV-1704-0431

Aviation Machinist Mate Turboprop Fundamentals Strand, Class A1

Course Number: C-601-2013.
Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.
Length: 2 weeks (80 hours).
Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an apprentice turboprop power plants and related systems mechanic at fleet and shore activities.

Instruction: This course covers turboprop power plants and systems, auxiliary power units, and ground support equipment. Methodology includes classroom lectures and practical exercises. Students will have completed Aviation Machinist Mate Common Core, Class A1 (C-602-2011).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft corrosion control, 1 in aviation physics, and 3 in gas turbine engines (1/97).

NV-1704-0432

Aviation Machinist Mate Turbojet Fundamentals, Class A1

Course Number: C-601-2014.
Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.
Length: 2 weeks (80 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an apprentice turbojet power plants and related systems mechanic at fleet and shore activities.

Instruction: The course covers turbojet power plants and systems, auxiliary power units, and ground support equipment. Methodology includes classroom lectures and practical exercises. Students will have completed Aviation Machinist Mate Common Core, Class A1 (C-602-2011).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft corrosion control, 1 in aviation physics, and 3 in gas turbine engines (1/97).

NV-1704-0433

Aviation Structural Mechanic S (Structures) Common Core, Class A1

Course Number: C-603-2012.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 5-6 weeks (208 hours).
Exhibit Dates: 10/95–2/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an aviation structural mechanic both afloat and ashore.

Instruction: The course content covers aircraft metal fabrications, aircraft corrosion control, aircraft nonmetallics, aircraft publications, and general aircraft maintenance. Methodology includes classroom lectures, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft sheet metal repair, 1 in aircraft finishes, and 1 in aircraft composites (9/96).

NV-1704-0434

Aircrew Survival Equipmentman Common Core, Class A1

Course Number: C-602-2035.
Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.
Length: 3 weeks (118 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a maintenance technician at aviation activities afloat and ashore under all operating conditions with appropriate supervision.

Instruction: This course covers specific information on the aircrew survival equipment rating, the naval aviation maintenance program, and the survival equipment asset tracking system with particular emphasis on general safety and accident prevention. General aircraft maintenance, sewing machines, and survival equipment are the major topics. Methodology includes classroom discourses, laboratory exercises, and knowledge and performance testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft environmental systems (5/97).

NV-1704-0435

Aircrew Survival Equipmentman Intermediate Level Strand, Class A1

Course Number: C-602-2037.
Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.
Length: 4-5 weeks (168-184 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a maintenance technician at aviation intermediate maintenance activities afloat and ashore under all operating conditions with appropriate supervision.

Instruction: This course covers parachutes, personnel flotation equipment, multiplace flotation equipment, and seat survival kits. Instruction includes descriptions, parts, characteristics, and special handling techniques, such as packing of parachutes, inspections, and safety precautions. Methodology includes classroom lectures, hand-on laboratory experiences, and knowledge and performance testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft environmental systems. For credit for the Common Core, see NV-1704-0434 (4/97).

NV-1704-0436

Oxygen System Component Test Stand/ Oxygen Regulator Repair

Course Number: C-602-2027.

Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (183 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the oxygen components test stand, including inspection, test, and repair of personal and panel-mounted oxygen regulators.

Instruction: This course covers characteristics and function, operation, maintenance, and modifications to the oxygen system component test stand. Also included are inspection, servicing, testing, disassembly, and assembly and repair of miniature and panel-mounted oxygen regulators. Methodology includes classroom discourse, hands-on laboratory experience, and knowledge and performance testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour aircraft environmental systems (5/97).

NV-1704-0437

L OX Converter Test Stand/LOX Converter and Stock Keeping Unit (SKU) Repair

Course Number: C-602-2028.

Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 2-3 weeks (94 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the LOX converter test stand; inspect, test, and repair seat survival kits; and to perform tasks pertinent the aircrews survival equipmentman rating.

Instruction: The course covers inspection, test, preventive maintenance, troubleshooting, and repair of the LOX converter test stand and its components. Operation, purging and charging, and calendar inspection of the seat survival kit's emergency oxygen system are also included. Methodology includes classroom lectures, hands-on laboratory experiences, and knowledge and performance testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft environmental systems (5/97).

NV-1704-0438

Aviation Structural Mechanic E (Safety Equipment) Common Core, Class A1

Course Number: C-602-2033.

Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5-6 weeks (213 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a maintenance technician of aircraft environmental and safety systems both afloat and ashore.

Instruction: This course covers general aircraft maintenance, aircraft publications, aircraft inspections, corrosion control, liquid and gaseous oxygen systems, aircraft air conditioning and pressurization systems, and aircraft auxiliary bleed air systems. Methodology includes classroom lectures, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft corrosion control, 3 in aircraft environmental control systems, and 1 in introduction to aviation maintenance (5/97).

NV-1704-0439

Aviation Structural Mechanic E (Safety Equipment) Egress Strand, Class A1

Course Number: C-602-2034.

Location: Air Station, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 2 weeks (67 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a maintenance technician of aircraft egress systems both afloat and ashore.

Instruction: This course covers introduction to canopy and egress systems including Martin Baker ejection seats. Methodology includes classroom lectures, demonstrations, and practical exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (5/97).

NV-1704-0440

Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1

Course Number: C-602-2030.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 3 weeks (118 hours).

Exhibit Dates: 10/95–2/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an aviation structural mechanic (hydraulic) both afloat and ashore.

Instruction: This course covers general aircraft maintenance, maintenance publications and documentation, and maintenance of hydraulic and pneumatic systems. Methodology includes classroom lectures, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft maintenance publications, 1 in aircraft corrosion control, 1 in aircraft landing gear systems, and 2 in aircraft hydraulic and pneumatic systems (8/96).

NV-1704-0441

Aviation Structural Mechanic H (Hydraulics) Organizational Level, Class A1

Course Number: C-602-2031.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 3-4 weeks (132 hours).

Exhibit Dates: 10/95–2/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an aviation structural mechanic (hydraulic) both afloat and ashore.

Instruction: This course covers basic hydraulic systems and troubleshooting, aircraft landing gears, maintenance of flight control systems, electrical troubleshooting, aircraft tires, and introduction to composite materials. Methodology includes classroom lectures, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft maintenance publications, 1 in aircraft corrosion control, 2 in aircraft landing gear systems, and 3 in aircraft hydraulic and pneumatic systems. Credit includes that recommended for the Common Core listed as NV-1704-0440 (1/97).

NV-1704-0442

Aviation Structural Mechanic H (Hydraulics) Intermediate Level, Class A1

Course Number: C-602-2032.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 1-4 weeks.

Exhibit Dates: 10/95–2/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an aviation structural mechanic (hydraulic) both afloat and ashore.

Instruction: This course covers hydraulic and pneumatic component repair. Methodology includes practical exercises. Students will have completed Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1 (-602-2030) and the credit recommended for this course includes that of the common core.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft maintenance publications, 1 in aircraft corrosion control, 2 in aircraft landing gear systems, and 2 in aircraft hydraulic and pneumatic systems. This recommendation includes the credit recommended for NV-1704-0440 (8/96).

NV-1704-0443

E-6 Flight Engineer Initial Qualification

Course Number: E-050-0401.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 11 weeks (450 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate transport aircraft systems as a flight engineer and function as aircrew on transport category aircraft.

Instruction: Instruction includes classroom lectures, laboratories, computer-based training, and flight laboratory activities. Topics include transport aircraft systems performance, inflight operations, instrument flying, and cockpit resource management.

Credit Recommendation: In the upper-division baccalaureate category, 1 semester hour in cockpit resource management, 1 in instrument flight theory, 2 in transport aircraft systems, and 3 in flight engineer-flight laboratory (4/97).

NV-1704-0444

Basic Flight Engineer

Course Number: E-050-0404.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 4-5 weeks (166 hours).
Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use aircraft performance charts to determine takeoff, climb, cruise, and descent performance.

Instruction: Instruction is provided through traditional classroom lecture, laboratory, and computer-based training. Topics include atmospheric physics, weight and balance, aircraft performance computations, and applications.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in flight engineer basic (4/97).

NV-1704-0445

E-6A Power Plant and Related Systems (Initial) Organizational Maintenance

Course Number: C-601-3500.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 4 weeks (192 hours).
Exhibit Dates: 3/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe and perform entry level maintenance on aircraft fuel systems and auxiliary power units and be able to remove and replace turbine engines on aircraft.

Instruction: Instruction methods include traditional classroom, laboratory projects and computer-based training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft maintenance (including entry level skills in aircraft fuel systems, auxiliary power systems, and turbine aircraft power plants) (4/97).

NV-1704-0446

E-6A Electrical and Instrument Systems Organizational Maintenance

Course Number: C-602-3509.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 8 weeks (320 hours).
Exhibit Dates: 12/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational checkout, testing, and troubleshooting of the following aircraft systems: AC power system, DC power system, miscellaneous instruments, flight director system, autopilot and attitude warning system, fire detection and extinguishing system, fuel and hydraulic systems, and environmental control systems.

Instruction: Lectures and hands-on performance tasks are used to teach the operation, checking, testing, and troubleshooting of main aircraft systems. Written and performance progress tests are used for evaluation of knowledge and skills for the various systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in pneumatics and hydraulics and 3 in air conditioning and pressurization systems (4/97); in the upper-division baccalaureate category, 3 semester hours in aircraft systems controls troubleshooting and repair (4/97).

NV-1704-0447

E-6A Environmental Control Systems Organizational Maintenance

Course Number: C-602-3510.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 4 weeks (160 hours).
Exhibit Dates: 2/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use tools and test equipment to operate, maintain, and troubleshoot the following environmental control systems and emergency systems: engine and auxiliary power unit bleed air systems, cabin pressurization and air conditioning systems; avionics forced air, draw-through, and oxygen cooling systems; gallery; potable water; crew relief; and emergency and fire extinguisher systems.

Instruction: Lectures and laboratories uses specialized tools and trainers with fault-insertion capability. Topics covered are bleed air systems for engine and auxiliary power unit cabin air conditioning and pressurization systems avionics equipment cooling systems; and gallery, potable water, and emergency systems. Written tests and laboratory exams are used to assess the knowledge and skills.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft heating, air conditioning, and ventilation systems operation and troubleshooting (4/97).

NV-1704-0448

E-6A Electric and Instrument Systems (Initial) Organizational Maintenance

Course Number: C-602-3507.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 4 weeks (160 hours).
Exhibit Dates: 9/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to remove and replace the following aircraft systems: electrical power generation and distribution, utility and lighting, fuel, power plant, environmental control, hydraulic power, flight instrument and flight control use electronic test equipment like frequency counter, impedance bridge DMM; and read wiring diagrams.

Instruction: Lectures and actual hands-on exercises cover the operation, checking, and removal and replacement of the various aircraft systems, using test equipment. Assessment is accomplished using written and performance demonstration.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to aircraft systems controls (4/97).

NV-1704-0449

E-6A Power Plant and Related Systems Organizational Maintenance

Course Number: C-601-3504.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 8 weeks (176 hours).
Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and conduct minor repairs to aircraft turbine engines.

Instruction: Instruction includes classroom instruction, laboratories, and computer-based training in aircraft fuel systems, auxiliary power systems, and turbine engines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in turbine engine theory and 2 in turbine engine operations, troubleshooting, and repair (4/97).

NV-1704-0450

E-6A Airframes and Hydraulic Systems (Initial) Organizational Maintenance

Course Number: C-603-3501.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 4-5 weeks (176 hours).
Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform limited maintenance on aircraft systems and components operated through hydraulic systems.

Instruction: Instruction is provided through classroom lecture, laboratory, and computer-based training. Topics include hydraulic systems, cargo door system, aerial refueling system, landing gear and brake systems, flight control and trim systems, and fuel tank systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft hydraulic systems and components and 1 in aircraft hydraulic systems and components laboratory (4/97).

NV-1704-0451

E-6A Airframe and Hydraulics Systems Organizational Maintenance

Course Number: C-603-3503.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 8 weeks (320 hours).
Exhibit Dates: 9/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform entry level maintenance on aircraft airframe structures and aircraft hydraulic systems.

Instruction: Instruction includes traditional classroom, laboratory, and computer-based training. Topics include aircraft structures, hydraulic systems, thrust reversers, landing gear, brakes, flight controls, flags, and fuel tanks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft structures theory, 2 in aircraft airframe structures laboratory, 1 in aircraft hydraulics and flight controls, and 2 in aircraft hydraulics and flight controls laboratory (4/97).

NV-1704-0452

E-6A Reel Operator/Maintenance Technician

Course Number: C-102-3516.
Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.
Length: 8 weeks (320 hours).
Exhibit Dates: 11/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the function of all basic hydraulic components and their interrelationship in hydraulic systems; troubleshoot and operate hydraulic systems; describe basic electronic components (transistor and gates), as they relate to control systems; read electrical and hydraulic symbols and control diagrams; describe phase and DC power distribution circuits; and understand basic electronic controls used in electro/mechanical/hydraulic systems.

Instruction: Lectures, demonstrations, and hands-on laboratory exercises provide a review of bipolar transistor circuits and logic functions; hydraulic components, symbols, and systems; power distribution for DC and phases for control and operation of 60HP motor; and basic control theory for electronic control of electro/mechanical/hydraulic system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours basic hydraulics and 3 in control systems (electronic and electromechanical) (4/97).

NV-1704-0455

Model 42G 500KW Motor Generator Maintenance

Course Number: A-662-0141.

Location: Submarine School, New London, Groton, CT; Submarine Training Facility, Norfolk, VA; Submarine Training Center, Pacific, Pearl Harbor, HI; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (64 hours).

Exhibit Dates: 9/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform simple experiments with motors, generators, and motor-generator sets and perform maintenance and troubleshooting on motors, generators, and motor-generator sets.

Instruction: Lecture and laboratory applications cover advanced theory of operation, maintenance, and fault analysis of motors, generators, motor-generator sets, and their associated control devices.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical machinery (4/97).

NV-1704-0456

Submarine Atmosphere Support System Maintenance

Course Number: A-652-0146.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine Base, New London, Groton, CT; Trident Training Facility, Kings Bay, GA.

Length: 1-2 weeks (55-56 hours).

Exhibit Dates: 9/96–4/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a ventilator, low-pressure blower, CO-H2 Burner, and CO2 Scrubber, and certified oxygen clean.

Instruction: Lectures and laboratory exercises cover burners, scrubbers, blowers, and ventilators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in mechanical technology or fluid mechanics technology (4/97).

NV-1708-0001

Landing Craft Air Cushion Crew Training (Craftmaster/Engineer)

Course Number: K-062-0100.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 14-15 weeks (467-480 hours).

Exhibit Dates: 11/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to function as an air cushion landing craft operator (LCAC), under all conditions.

Instruction: Classroom methods include lectures, mission simulation, and live exercises in the LCAC full mission trainer. Training includes water, land, day, night, and reduced visibility operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in power boat operation, 1 in rules of the road, and 4 in hovercraft operation (10/97).

NV-1708-0002

Boatswain's Mate Skills Basic
(Boatswain's Mate Fundamentals)

Course Number: J-060-0036.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 2-3 weeks (80 hours).

Exhibit Dates: 7/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply basic skills in seamanship, painting and surface preparation, booms, cranes, rigging, ground tackle, anchoring and mooring, and underway and alongside replenishment.

Instruction: Lectures and practical laboratory experiences cover all basic requirements for the boatswain's mate third class. Students are given practical applications in cargo handling rigs, replenishment at sea, anchoring and mooring, and line splicing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in cargo handling and seamanship (10/97).

NV-1708-0003

Offshore Petroleum Discharge System Side Loadable Warping Tug (SLWT) Operations Technician

Course Number: K-062-0101.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 3 weeks.

Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to rig and operate side loading warping tug in conjunction with single anchor leg mooring and beach termination unit system.

Instruction: Classroom instruction is followed by hands-on training laboratory with practical applications. Course includes rigging applications; effects of wind, currents, and tide; and restoration of equipment and material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in small boat handling (10/97).

NV-1709-0010

Still Documentary Photography, Class C1

Course Number: C-400-2022.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: Self-paced, 5-6 weeks (218 hours).

Exhibit Dates: 1/90–3/94.

Objectives: To provide training or updating of skills in producing photo stories and written presentations for media release and developing audiovisual presentations.

Instruction: The course uses modular self-paced, individualized instruction as the primary instructional method. Course topics cover photographic laboratory supervision; documentary news photography including caption writing, feature picture, basic news writing, spot news, layout and page makeup, picture story, and picture essay; and media selection, including presentation objectives analysis, audience analysis, content outline development, presentation method, storyboard development, master script, visual and narrative production, assembly and programming, general interest slide show, and multimedia presentation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in photo department operations (3/84); in the upper-division baccalaureate category, 2 semester hours in documentary news photography and 2 in media selection (3/84).

NV-1709-0017

Illustrative Photography, Class C1

Course Number: C-400-2021.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: Self-paced, 4-6 weeks (182-212 hours).

Exhibit Dates: 1/90–3/94.

Objectives: To provide training or skill updating in the areas of slide production and illustrative, architectural, and portrait photography.

Instruction: The course uses modular, self-paced, individualized instruction as the primary instructional method. Course topics cover photographic laboratory supervision; illustrative photography, including the Kodak Ektamatic print processor, macrophotography, composition, and architectural photography; and studio lighting/portraiture.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in photo department operations (3/84); in the upper-division baccalaureate category, 2 semester hours in photography (studio/architectural/portraiture) (3/84).

NV-1709-0018

Photographic Laboratory Technician, Class C1

Course Number: C-400-2020.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: Self-paced, 6 weeks (213 hours).

Exhibit Dates: 1/90–3/94.

Objectives: To provide students with training and skills in color printing and processing, photofinishing equipment operation, and chemical process quality control.

Instruction: The course uses modular, self-paced, individualized instruction as the primary instructional method. Course topics cover photographic laboratory supervision; laboratory support equipment familiarization, including sensitometry, film speed, process effects and uniformity, chemical monitoring and process control, replenishment rates, statistical and sensitometric evaluation, and gamma and tone reproduction; and color processing, including the master print, basket processing, visual evaluations, off-easel and on-easel spot evaluations, and calibration and indexing of color analyzer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in photo department operations (3/84); in the upper-division baccalaureate category, 2 semester hours in photography or photographic technician training (3/84).

NV-1709-0021

AN/SXQ-8(V)2 Secure Closed Circuit Television System Maintenance

Course Number: J-150-0989; D-150-0101.

Location: Intelligence Processing System Training Facility, Key West, FL; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To provide technical knowledge and skills needed to perform preventive and corrective maintenance actions for the AN/SXQ-8(V)2 secure closed circuit television system.

Instruction: Course covers block diagram analysis of CCTV system with waveform analysis and the correlation of special test equipment to the overall signal block diagram. The course is broken into major segments covering the specific equipment in the input, sync, switching, and monitor blocks.

Credit Recommendation: In the vocational certificate category, 6 semester hours in closed circuit television maintenance (1/86); in the lower-division baccalaureate/associate degree category, 3 semester hour in a technical elective (electronics) (1/86).

NV-1709-0024

Modular Image Interpretation System and Analytical Photogrammetric Positioning System Maintenance

Course Number: J-150-0990; D-150-0105.

Location: Intelligence Processing System Training Facility, Key West, FL; Air Station, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To train selected data systems technicians in corrective and preventive maintenance of the Modular Image Interpretation System AS-27A and the Analytical Photogrammetric Positioning System AN/UYK-48.

Instruction: Topics include the purpose, capabilities, and operation of the overall system; lab portion covers troubleshooting and corrective maintenance procedures.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/86).

NV-1709-0028

Photographic Equipment Preventive/Operational Maintenance

Course Number: C-670-2016.

Location: School of Photography, Corry Station, Pensacola, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to install, operate, maintain, and perform minor repairs to general photographic equipment.

Instruction: Course includes lectures, laboratories, demonstrations, and exercises covering the mechanical, electrical, and electromechanical devices commonly found in Navy photographic laboratories.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in photographic finishing (7/87).

NV-1709-0029

Photographic Equipment Repair, Class C1

Course Number: C-670-2012.

Location: School of Photography, Corry Station, Pensacola, FL.

Length: 13 weeks (520 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance on representative mechanical, electromechanical, and electronic photographic equipment.

Instruction: Course includes lectures, demonstrations, and laboratory work on preventive maintenance of representative mechanical, electromechanical, and electronic photographic equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 8 semester hours in photography equipment repair (7/87).

NV-1709-0030

Advanced Photography Training

Course Number: C-400-2030.

Location: School of Photography, Corry Station, Pensacola, FL.

Length: 14 weeks (560 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate knowledge and skills in the areas of photographic lab administration, quality control, color photography, illustrative photography, portraiture, photojournalism, motion picture photography, and aerial photography.

Instruction: Course includes lectures, demonstrations, and laboratory work in the areas of photographic lab administration, quality control, color photography, illustrative photography, portraiture, photojournalism, and motion picture and aerial photography.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in photographic lab administration, 1 in quality control, 2 in color photography, 2 in illustrative photography, 1 in portraiture, 2 in photojournalism, 2 in motion picture photography, and 1 in aerial photography (7/87).

NV-1709-0036

Audiovisual Managers

Course Number: C-7F-216.

Location: School of Photography, Corry Station, Pensacola, FL.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to successfully manage an audiovisual facility.

Instruction: Course includes lectures and demonstrations covering the organization of naval audiovisual services.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in audiovisual facility management (7/87).

NV-1709-0037

Photographer's Mate School, Class A

Course Number: C-400-2011.

Location: School of Photography, Corry Station, Pensacola, FL.

Length: 9-10 weeks (372 hours).

Exhibit Dates: 1/90–4/92.

Learning Outcomes: Upon completion of the course, the student will be able to provide, with minimal supervision, routine black-and-white still photographs, including basic electronic flash photography, basic studio photography, and basic documentary photography.

Instruction: Course includes lectures, laboratories, demonstrations, and exercises in black-and-white photography process control, basic camera and exposure meter operation, electronic flash operation, sensitometry, studio photography, and documentary photography.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in basic black-and-white photography and 3 in materials and processes of photography (7/87).

NV-1709-0038

Intelligence Photography

Course Number: J-243-0974.

Location: Fleet Intelligence Training Center, Pacific, San Diego, CA; Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 1 week (40 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate a 35mm camera, understand fundamental photographic theory and techniques, develop and print photographs using standard basic techniques, and maintain a photo log.

Instruction: Lectures and group-paced practical exercises cover the operation and maintenance of a basic 35mm SLR camera. Course offers limited darkroom and laboratory techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic photography (12/87).

NV-1709-0039

Intelligence Specialist, Class A Imagery Interpretation

Course Number: J-242-0993.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 15 weeks (592 hours).

Exhibit Dates: 1/90–9/92.

Learning Outcomes: Upon completion of the course, the student will be able to perform

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arithmetic and photogrammetric calculations with mechanical and electronic calculators; identify, measure, classify, and determine junction of various physical and cultural ground features through black-and-white, color, infrared, and radar imagery; initiate research and write reports; prepare photo mosaics; and plan work assignments.

Instruction: Through lectures, laboratory assignments, and practical exercises students receive intensive instruction on all skills related to the interpretation of all-source imagery.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics and 3 in technical writing (12/87); in the upper-division baccalaureate category, 3 semester hours in photogrammetry and 3 in aerial photo interpretation (12/87).

NV-1709-0040

1. Navy Tactical Command System Afloat Strike Planning (STRIKE) Application
   (Afloat Strike Planning Support Systems Applications)
   (Afloat Strike Planning Systems Applications)
2. Automated Tactical Reconnaissance Systems (TACRECCE) Support Afloat

Course Number: *Version 1:* J-150-0987. *Version 2:* J-150-0987.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 7 weeks (280 hours). *Version 2:* 4 weeks (150 hours).

Exhibit Dates: *Version 1:* 1/93–Present. *Version 2:* 1/90–12/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have an overall understanding of the afloat intelligence center; able to operate equipment in support of multisensor reconnaissance missions; and be familiar with battle damage assessments. *Version 2:* Upon completion of the course, the student will be able to operate an image interpretation system and a photogrammetric positioning system and perform tactical reconnaissance procedures.

Instruction: *Version 1:* Course teaches the skills necessary for photogrammetric positioning, tactical aircraft mission planning, intelligence processing, imagery processing, and operating the secure closed circuit television system. *Version 2:* Course teaches the skills necessary to operate an image interpretation system and a photogrammetric positioning system and to perform tactical reconnaissance procedures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in communications or television studio procedures (9/94); in the upper-division baccalaureate category, 2 in aerial photographic interpretation (9/94). *Version 2:* In the upper-division baccalaureate category, 3 semester hours in photogrammetry (12/87).

NV-1709-0041

Medical Photography Technician, Class C

Course Number: B-400-0010.

Location: School of Health Sciences, Bethesda, MD.

Length: 30-31 weeks (1224 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to take, process, and print black-and-white and color still and motion pictures related to scientific, clinical, surgical, and pathological fields and perform public relations photography.

Instruction: Lectures and practical exercises cover medical photography, including basic principles of photography, camera operation, optics, light meters, filters, film processing, and darkroom procedures for both black-and-white and color films; photo copying; slide duplication and mounting; slide projection; medical-related photographic techniques; motion picture projection; and photo laboratory administration.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in still photography, 4 in black-and-white photography, 5 in color photography, 2 in public relations photography, and 1 in photo laboratory administration (10/90); in the upper-division baccalaureate category, 12 in medical photography and 1 in forensic photography (10/90).

NV-1710-0019

1. Marine Expeditionary Airfield Equipment, Class M1
2. Marine Expeditionary Airfield Equipment

Course Number: *Version 1:* C-604-2015. *Version 2:* C-604-2015.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Lakehurst, NJ; Technical Training Center, Millington, TN.

Length: *Version 1:* 6 weeks (233 hours). *Version 2:* 6 weeks (216 hours).

Exhibit Dates: *Version 1:* 7/95–Present. *Version 2:* 1/90–6/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to install, operate, maintain, inspect, and test the M-21 arresting gear, Mk 8 Fresnel lens optical landing system, AM-2 matting and accessories, airfield lighting, anchoring systems, and shore-based emergency arresting gear. *Version 2:* Upon completion of the course, the student will be able to install, operate, maintain, inspect and test the M-21 arresting gear, Mk 8 Fresnel Lens Optical Landing System, AM-2 matting and accessories, airfield lighting, anchoring systems, and shore-based emergency arresting gear and perform cardiopulmonary resuscitation as a member of a team.

Instruction: *Version 1:* Course includes lectures and practical exercises in movement and use of required equipment for the construction, installation, maintenance, and operation of a marine expeditionary airfield, including portable matting, vertical/short takeoff and landing, fresnel lens optical landing system, M-21 arresting gear and E-28 emergency aircraft shore-based arresting gear, and the E-51 emergency arresting gear. *Version 2:* Lectures and practical exercises cover movement and use of required equipment for the construction, installation, maintenance, and operation of a marine expeditionary airfield, including portable matting, vertical/short takeoff and landing, Fresnel Lens Optical Landing System, M-21 arresting gear and E-28 emergency aircraft shore-based arresting gear, and the E-51 emergency arresting gear. Instruction also covers use and handling of explosives and completion of records and maintenance reports.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial shop safety and 2 in industrial shop maintenance (1/97). *Version 2:* In the vocational certificate category, 1 semester hour in small engine maintenance (6/87); in the lower-division baccalaureate/associate degree category, 1 semester hour in power plant operational theory and 2 in safety and first aid (6/87).

NV-1710-0020

CV/CVN (Class) Air Compressor

Course Number: A-652-0239.

Location: Fleet Training Center Cryogenics School, Portsmouth, VA.

Length: 2 weeks (79 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain high- and low-pressure centrifugal air compressors.

Instruction: Classroom and practical instruction cover air compressor operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 in laboratory in mechanical compression systems (3/89).

NV-1710-0022

Boiler Repair Technician

Course Number: K-651-0109.

Location: Fleet Training Center, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational tasks, preventive maintenance, and repair on the propulsion boiler.

Instruction: Instruction includes lecture and laboratory instruction on the propulsion boiler system, including theory of operation, inspection, maintenance, and repair.

Credit Recommendation: In the vocational certificate category, 2 semester hours in boiler operational theory and 3 in boiler maintenance and repair (7/87).

NV-1710-0044

Basic Welding, Class C
(Plate Welders, Class C)

Course Number: A-701-0025.

Location: Service School Command, San Diego, CA; Naval Shipyard, Norfolk, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train enlisted personnel to weld various structures and hulls.

Instruction: Lectures and practical exercises cover welding, including manual metal arc welds on steel alloy plate, metal inert gas welds on aluminum plate, both types of welds on ferrous and nonferrous metal plate, gas tungsten arc welding and use of a variety of electrodes in both overhead and vertical positions.

Credit Recommendation: In the vocational certificate category, 3 semester hours in welding (5/82); in the lower-division baccalaureate/ associate degree category, 2 semester hours in welding (5/82).

NV-1710-0050

General Maintenance Welder, Class C1

Course Number: A-701-0026.

Location: Naval Shipyard, Norfolk, VA; Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–8/91.

Objectives: After 8/91 see NV-1710-0151. To train enlisted personnel to perform manual welding on carbon steel or copper-nickel pipe.

Instruction: Lectures and practical exercises in manual arc welding on carbon steel pipe in fixed-restricted vertical and horizontal positions and brazing of copper-nickel pipe.

Credit Recommendation: In the vocational certificate category, 3 semester hours in welding (5/82); in the lower-division baccalaureate/ associate degree category, 1 semester hour in welding (5/82).

NV-1710-0051

Non-Nuclear Component Welding

Course Number: A-701-0027.

Location: Naval Shipyard, Norfolk, VA; Service School Command, San Diego, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–12/92.

Objectives: After 12/92 see NV-1710-0150. To train enlisted personnel to perform manual metal arc welds on carbon-molybdenum high-pressure piping systems.

Instruction: Lectures and practical exercises cover high-pressure pipe welding. Course includes manual metal arc welding of steel pipe with carbon-molybdenum electrodes, manual metal arc welding of steel pipe with chrome-molybdenum electrodes, and gas tungsten arc welding of carbon steel pipe with root inserts.

Credit Recommendation: In the vocational certificate category, 5 semester hours in pipe welding (5/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in pipe welding (5/82).

NV-1710-0057

Propulsion Shaft Components Combined Maintenance

Course Number: A-651-0061.

Location: Fleet Ballistic Submarine Training Center, Charleston, SC; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 1 week (36 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To train enlisted personnel to maintain the propulsion shaft components found on nuclear-powered submarines.

Instruction: Lectures and practical exercises cover the maintenance of propulsion shaft components. Course includes principles of operation, theory of construction, and practical training in the repair of propulsion shaft components.

Credit Recommendation: In the vocational certificate category, 1 semester hour in marine machinist (11/85).

NV-1710-0069

Nuclear Power Plant Components Welder, Class C1

Course Number: A-701-0028.

Location: Service School Command, San Diego, CA.

Length: 14 weeks (447-560 hours).

Exhibit Dates: 1/90–12/92.

Objectives: After 12/92 see NV-1710-0149. To train personnel to weld reactor coolant and associated systems in a nuclear power plant.

Instruction: Topics include introduction to nuclear power plant component welding, welding consumable material, pipe butt and socket type joints, and upper-seal weld of a beveled canopy.

Credit Recommendation: In the vocational certificate category, 6 semester hours in advanced or specialized welding (5/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in advanced or specialized welding (5/82).

NV-1710-0072

General Regulator Automatic Boiler Control Maintenance

(Steam Plant Automatic Controls Maintenance (General Regulator))

Course Number: A-651-0040; A-651-0039.

Location: Fleet Training Center, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–10/91.

Objectives: After 10/91 see NV-1710-0155. To train personnel to operate and calibrate the general regulator automatic boiler control system.

Instruction: Lectures and practical exercises cover the operation and calibration of the general regulator automatic boiler control system, including air and fuel regulation, multielement feed water regulators, feed pump controllers, system and component calibration, and troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in automatic control or high-pressure boiler operation (5/82); in the lower-division baccalaureate/ associate degree category, 1 semester hour in automatic control instrumentation laboratory (5/82).

NV-1710-0073

Hagan Automatic Boiler Control Maintenance

(Steam Plant Automatic Controls Maintenance (Hagan))

Course Number: A-651-0042; A-651-0041.

Location: Fleet Training Center, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–10/91.

Objectives: After 10/91 see NV-1710-0156. To train personnel to operate and calibrate the Hagan automatic boiler control system.

Instruction: Classroom instruction and practical exercises cover the operation and calibration of the Hagan boiler control system, including air and fuel regulation, multielement feed water regulators, feed pump controllers, systems and component calibration, and troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in automatic control or high-pressure boiler operation (5/82); in the lower-division baccalaureate/ associate degree category, 1 semester hour in automatic control instrumentation laboratory (5/82).

NV-1710-0074

Bailey Automatic Boiler Control Maintenance

(Steam Plant Automatic Controls Maintenance (Bailey Meter))

Course Number: A-651-0044; A-651-0043.

Location: Fleet Training Center, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel to operate and calibrate the Bailey automatic combustion control system.

Instruction: Instruction and practical exercises cover the operation and calibration of the Bailey automatic combustion control systems, including air and fuel regulation, multielement feed water regulators, feed pump controls, system and component calibration, and troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in automatic combustion control or high-pressure boiler operation (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in automatic controls instrumentation laboratory (5/82).

NV-1710-0078

Hagan Automatic Boiler Control Console (ACC) Operator

Course Number: A-651-0049.

Location: Surface Warfare Officer School, Newport, RI; Fleet Training Group, Pearl Harbor, HI; Fleet Training Center, San Diego, CA; Fleet Training Center, Mayport, FL; Fleet Training Center, Norfolk, VA; Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 2-3 weeks (84 hours).

Exhibit Dates: 1/90–11/91.

Objectives: After 11/91 see NV-1710-0160. This course trains enlisted personnel and others possessing boiler operator skills to operate a Hagan automatic boiler control console.

Instruction: This course covers automatic boiler control theory and a typical automatic combustion control system. Lectures cover the principles of feed water control, feed pump differential pressure control, feedback recirculation controls, and air locks. Lectures and practical experiences cover automatic boiler control console operation and procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in a technical elective in manufacturing technology, mechanical technology, or engineering technology (11/81).

NV-1710-0079

General Regulator Automatic Boiler Control Console Operator

Course Number: A-651-0046.

Location: Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, San Diego, CA; Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Mayport, FL; Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (84 hours).

Exhibit Dates: 1/90–11/91.

Objectives: After 10/95 see NV-1710-0157. The course trains enlisted personnel and others possessing boiler operator skills to operate a General Regulator automatic boiler control console.

Instruction: This course covers automatic boiler control theory and a typical automatic combustion control system. Lectures cover the principles of feed water control, feed pump differential pressure control, feed pump recirculation controls, and air locks. Lectures and practical experiences cover automatic boiler control console operation and procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in a technical elective in manufacturing technology, mechanical technology, or engineering technology (11/81).

NV-1710-0081

BOILER TECHNICIAN/MAINTENANCE MANAGEMENT
SIX YEAR OPTION
(Boiler Technician 6 Year Option (6YO) Advanced Maintenance Phase 3, Class C1)

Course Number: A-651-0080.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–2/90.

Objectives: After 2/90 see NV-1710-0124. To train personnel to perform preventive and corrective maintenance on basic steam propulsion system components.

Instruction: Lectures and practical exercises provide boiler technicians with skills in the use of marine engineering technical documentation; preparation of Planned Maintenance System (PMS) forms and supply requisitions; and maintenance principles and practices for mechanical fasteners, static and dynamic seals, sliding and rolling contact bearings, shipboard lubrication management, and scheduled and corrective maintenance of manually-operated valves.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in maintenance management (6/88).

NV-1710-0084

BOILER TECHNICIAN (1200 PSI), CLASS A1

Course Number: A-651-0010; A-651-0052.

Location: Service School Command, Great Lakes, IL.

Length: Self-paced, 7 weeks (280 hours).

Exhibit Dates: 1/90–12/90.

Objectives: After 12/90 see NV-1710-0129. To train personnel in the operation of components/systems of steam propulsion plants.

Instruction: Individualized, computer-managed instruction covers the operation of components and systems in steam propulsion plants. Instruction includes fire fighting systems, mainstream systems, boilers, water-level indicator and chemical feed systems, auxiliary steam systems, combustion air systems, exhaust systems, and service and control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours as a technical elective in systems operations or related programs (1/82).

NV-1710-0085

BAILEY AUTOMATIC BOILER CONTROL CONSOLE
OPERATOR

Course Number: A-651-0050.

Location: Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, San Diego, CA.

Length: 3 weeks (84-105 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train enlisted personnel and others possessing boiler operator skills to operate a Bailey automatic boiler console.

Instruction: Lectures and laboratory exercises cover automatic boiler control theory and a typical automatic combustion control system, including principles of feed water control, feed pump differential pressure control, feed water recirculation controls, air locks, and boiler control console operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in a technical elective in manufacturing technology, mechanical technology, or engineering technology (5/82).

NV-1710-0086

AUXILIARY MACHINERY CONTROLS, GOVERNORS
AND REGULATORS MAINTENANCE

Course Number: A-651-0069.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (83 hours).

Exhibit Dates: 1/90–5/95.

Objectives: After 5/95 see NV-1710-0159. To train personnel in the maintenance of machinery controls, governors, and regulators.

Instruction: Classroom instruction and practical exercises cover troubleshooting, disassembly, inspection, measurement, repair, reassembly, and testing of machinery controls, governors, and regulators, including speed control devices, air pilot diaphragm control devices, pressure control devices, and safety shutdown devices.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery controls, governors, and regulators maintenance (3/89); in the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems laboratory (3/89).

NV-1710-0090

AUTOMATED PROPULSION SYSTEM MAINTENANCE

Course Number: A-651-0045.

Location: Service School Command, San Diego, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in the preventive and corrective maintenance of propulsion indicating and control components and systems.

Instruction: Lectures and laboratory exercises cover calibration, troubleshooting, and preventive maintenance procedures in propulsion system remote indicating and control components for boiler burner controls, temperature and pressure indicating systems, and printer output units.

Credit Recommendation: In the vocational certificate category, 2 semester hours in maintenance of remote and other indicating devices and 1 in printer output devices (5/82).

NV-1710-0091

PUMP MAINTENANCE

Course Number: A-651-0067.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (70-76 hours).

Exhibit Dates: 1/90–5/95.

Objectives: After 5/95 see NV-1710-0158. To train students in the proper inspection and maintenance of pumps.

Instruction: Classroom instruction and practical exercises cover pump inspection and maintenance, including centrifugal, reciprocating, and rotary pumps; external and internal inspection; troubleshooting, disassembly, repair, and reassembly; test maintenance; and record keeping.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery pump repair (3/89); in the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems laboratory (3/89).

NV-1710-0092

DAMAGE CONTROL ASSISTANT

Course Number: A-4G-0020.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To provide officers with the knowledge necessary to perform as a damage control assistant and electrical officer.

Instruction: The course includes a detailed study of the area of damage control equipment, systems, and administration, including equipment and maintenance procedures, stability, buoyancy, battle damage evaluation; and containment techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in shipboard repair orientation (11/82).

NV-1710-0093

SURFACE WARFARE OFFICER SPECIALTY COURSE
STEAM MAIN PROPULSION ASSISTANT

Course Number: A-4H-0021.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To train officers to operate 1200 PSI steam propulsion plants.

Instruction: Lectures and practical exercises cover power plant operations and maintenance, including main feed and condensate, lubricating oil, fuel oil, main steam, auxiliary steam, and propulsion systems. Subjects covered include air compressors, valves, pumps, gauges, distilling plants, pollution control, and brazing and soldering.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic marine engineering, or 3 in power plant operations, or 2 in high-pressure boilers, and 2 in marine engineering laboratory (11/82).

NV-1710-0094

BOILER TECHNICIAN/MAINTENANCE MANAGEMENT
SIX YEAR OPTION
(Machinist's Mate Advanced Maintenance)

Course Number: A-651-0114.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/90.

Objectives: After 5/90 see NV-1710-0125. To train personnel to perform preventive and corrective maintenance on basic steam propulsion system components.

Instruction: Lectures and practical exercises provide Machinist Mates with skills in the use of marine engineering technical documentation; preparation of planned maintenance system forms and supply requisitions; and maintenance principles and practices for mechanical fasteners, static and dynamic seals, sliding and rolling contact bearings, shipboard lubrication management, and scheduled and corrective maintenance of manually-operated valves.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in maintenance management (6/88).

NV-1710-0095

Solar T-1020S-100B Gas Turbine Generator Set Operator and Maintenance

Course Number: A-652-0226.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course the student will be able to identify component/systems of the gas turbine generator by function, operate generator, perform operational checks, perform scheduled maintenance, and perform corrective maintenance on generator set.

Instruction: Lectures and practical exercises cover gas turbine operation, including lubrication, cooling, water and fuel systems, starting procedures, combustion air systems, safety procedures, inspection and maintenance of gas turbines and borescope, and cleaning and adjusting turbine control systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in gas turbine technology (6/88).

NV-1710-0097

Gas Turbine Fundamentals

Course Number: A-652-0244.

Location: Training Center, Great Lakes, IL.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To teach students the basic construction, theory of operation, and maintenance of an LM 2500 marine gas turbine propulsion system.

Instruction: Lectures and practical exercises cover basic pneumatics, hydraulics, AC and DC theory and devices, and gas turbine theory. Specific instruction and exercises cover the operating theory; construction; and maintenance of LM 2500 gas turbine propulsion systems, including fresh water, fuel and lube oil, pumps and heat exchangers, and fire fighting systems. Instruction in occupational safety include hearing loss, electric safety, and heat stress.

Credit Recommendation: In the vocational certificate category, 3 semester hours in gas turbine power systems or 2 in basic AC/DC theory, 1 in hydraulic principles, and 1 in gas turbine construction (1/86).

NV-1710-0100

Damage Control/Fuel Control Console Operator

Course Number: A-652-0079.

Location: Training Center, Great Lakes, IL.

Length: 1 week (40 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To train students to operate the damage control/fuel control console of a marine power plant.

Instruction: Lectures and practical experience cover operating control consoles.

Credit Recommendation: Credit is not recommended because of the limited, specific nature of the course (1/86).

NV-1710-0102

Gas Turbine Electrical, Class A

Course Number: *Version 1:* A-652-0298. *Version 2:* A-652-0298. *Version 3:* A-652-0298.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 8 weeks (320 hours). *Version 2:* 24 weeks (956 hours). *Version 3:* 25-26 weeks (1050 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 10/90–12/94. *Version 3:* 1/90–9/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to apply basic principles of engineering sciences, thermodynamics, heat transfer, and electricity and electronics through the use of basic algebra and trigonometry. Student will be able to operate gas turbine propulsion or electrical generating plant and recognize interrelationships of components in a gas turbine power plant. *Version 2:* Upon completion of the course, the student will be able to apply basic principles of engineering sciences, thermodynamics, heat transfer, and electricity and electronics through the use of basic algebra and trigonometry. Student will be able to operate gas turbine propulsion or electrical generating plant and recognize interrelationships of components in a gas turbine power plant. *Version 3:* Upon completion of the course, the student will be able to apply basic principles of the engineering sciences, including thermodynamics, heat transfer, fluid mechanics, and electricity and electronics; identify components/systems of a gas turbine propulsion unit by function; operate a gas turbine; recognize interrelationships of components in a gas turbine power plant; and diagnose malfunctions in plant operation.

Instruction: *Version 1:* Classroom lectures, demonstrations, and laboratory exercises are used to present the fundamental theories of mathematics, trigonometry, thermodynamics, heat transfer, fluid mechanics, electricity and electronics, gas turbine construction, gas turbine operations, basic AC/DC, basic electronic devices, introduction to electrical motors and generators, and industrial safety and fire fighting. *Version 2:* Classroom lectures, demonstrations, and laboratory exercises are used to present the fundamental theories of mathematics, trigonometry, thermodynamics, heat transfer, fluid mechanics, electricity and electronics, gas turbine construction, gas turbine operations, basic AC/DC, basic electronic devices, introduction to electrical motors and generators, and industrial safety and fire fighting. *Version 3:* Course includes engineering fundamentals, basic fluid mechanics, basic thermodynamics and heat transfer, engineering materials and methods, gas turbine theory, gas turbine construction, gas turbine operations, basic AC/DC circuits, basic electric devices, and introduction to electrical machinery. Course includes 760 hours of classroom instruction and 284 hours of laboratory work including 4 weeks of gas turbine plant operation.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in gas turbine technology and 1 in gas turbine technology laboratory (12/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial safety, 2 in engineering science, 4 in gas turbine technology, 1 in gas turbine technology laboratory, 6 in basic electricity and electronics, and 1 in basic electricity and electronics laboratory (11/91). *Version 3:* In the vocational certificate category, 4 semester hours in gas turbine plant operations (6/88); in the lower-division baccalaureate/associate degree category, 2 semester hours in thermo/hydraulic technology, 3 in gas turbine technology, and 4 in basic electricity and electronics (6/88).

NV-1710-0103

Gas Turbine Mechanical, Class A

Course Number: *Version 1:* A-652-0299. *Version 2:* A-652-0299.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 16 weeks (636 hours). *Version 2:* 15-16 weeks (764 hours).

Exhibit Dates: *Version 1:* 10/90–6/95. *Version 2:* 1/90–9/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the basic fundamentals of thermodynamics, heat transfer, fluid mechanics, and basic electricity and identify components/systems of a gas turbine propulsion plant and describe their operation. Student will make basic algebraic and trigonometric calculations. *Version 2:* Upon completion of the course, the student will be able to describe the basis principles of the engineering sciences, including thermodynamics, heat transfer, fluid mechanics, and electricity; identify components/systems of a gas turbine propulsion plant by function; perform basic functions in operating a gas turbine power plant; and diagnose malfunctions based on observation of operating parameters.

Instruction: *Version 1:* Classroom lectures, demonstrations, and laboratory work are used to cover engineering fundamentals; algebra; trigonometry; basic fluid mechanics; heat transfer; gas turbine theory, construction, and operation; basic theory of electricity; gas turbine propulsion auxiliary systems; industrial safety; and fire fighting. *Version 2:* Engineering fundamentals, basic fluid mechanics, basic thermodynamics and heat transfer, engineering materials and methods, gas turbine theory, gas turbine construction, gas turbine operations, basic AC/DC circuits, electrical maintenance techniques are covered in 530 hours of classroom instruction and 226 hours of laboratory work, including four weeks of gas turbine plant operation.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in gas turbine technology, 2 in electric fundamentals, 2 in engineering sciences fundamentals, 1 in industrial safety, and 1 in gas turbine technology laboratory (11/91). *Version 2:* In the vocational certificate category, 4 semester hours in gas turbine plant operation (6/88); in the lower-division baccalaureate/associate degree category, 2 semester hours in thermo/hydraulic technology, 3 in gas turbine technology, and 2 in basic electricity (6/88).

NV-1710-0104

Boiler Technician Six Year Obligator (BT 6YO) Advanced Operator

Course Number: *Version 1:* A-651-0079. *Version 2:* A-651-0079.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 6 weeks (216 hours). *Version 2:* 8 weeks (269 hours).

Exhibit Dates: *Version 1:* 6/90–11/94. *Version 2:* 1/90–5/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to identify high-pressure steam propulsion plant equipment and components; describe and perform normal equipment and component operation and setup and shutdown procedures; identify subsystem interconnections; operate plant equipment; keep appropriate records; make basic quantity and quality calculations associated with plant operations; and perform watchstanding maintenance. *Version 2:* Upon completion of the course, the student will be able to identify steam power plant components by function and operate steam plant power plant systems, including steam generators, main feed and condensate, sea water cooling, air removal, lubricating oil service, auxiliary steam, and electrical distribution systems. Student will stand appropriate 1200 psi steam power plant watches with special emphasis on automatic boiler control systems and practice a high standard of steam power plant and industrial safety.

Instruction: *Version 1:* Classroom lectures, demonstrations, performance exercises, laboratory instruction, and practice support the operation of a high-pressure steam propulsion system and its individual equipment. *Version 2:* Approximately equal time emphasis is given to classroom presentation and laboratory work. Testing is both written and oral. Emphasis is on knowledge base, facts, and terminology. Topics include safety, metrology, steam power plant systems, basic thermodynamic calculations, basic power plant system function, and interconnection and operating procedures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in steam power plant operation and 1 in steam power plant operation laboratory (6/90). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in steam power plant operation and 1 in industrial safety (6/88).

NV-1710-0105

Machinist's Mate Six-Year Obligator (6YO)

Course Number: A-651-0105.

Location: Service School Command, Great Lakes, IL.

Length: 8 weeks (275 hours).

Exhibit Dates: 1/90–12/95.

Learning Outcomes: Upon completion of the course, the student will be able to identify steam power plant components by function; operate steam power plant systems, including steam generators, main feed and condensate, sea water cooling, air removal, lubricator oil service, auxiliary steam, and electrical distribution systems; stand appropriate 1200 psi steam power plant watches with special emphasis on ship's service generator operations and flash type distilling plant operations; and practice high standards of steam power plant and industrial safety.

Instruction: Approximately equal time emphasis is placed on classroom presentations and laboratory work. Testing is both written and oral, with emphasis on knowledge base, facts, and terminology. Topics include safety, metrology, steam power plant systems, basic thermodynamic calculations, basic power plant system function, and interconnections and operating procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in steam power plant operations and 1 in industrial safety (6/88).

NV-1710-0106

KAMEWA Controllable Pitch Propeller Maintenance

Course Number: A-652-0055.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–12/93.

Learning Outcomes: Upon completion of the course, the student will be able to train enginemen to operate, maintain, and troubleshoot variable-pitch ship propellers and associated control equipment.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of variable-pitch ship propellers and associated control equipment including applications of hydraulics and pneumatics and analysis of electrical control circuits and mechanical components.

Credit Recommendation: In the vocational certificate category, 3 semester hours in pneumatic/hydraulic control systems maintenance (6/88).

NV-1710-0107

Missile Tube Support Equipment (Mechanical)

Course Number: A-121-0470.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a missile launcher pressurization system and missile tube hydraulic system and perform preventive and corrective maintenance on missile tube heating and cooling, dehumidifying, hydraulic, and missile launcher pressurization system.

Instruction: Lectures and laboratory exercises cover the mechanical subsystems (pneumatic, hydraulic, heating, cooling, and dehumidifying) related to submarine missile launching tubes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical engineering technology laboratory (2/89).

NV-1710-0108

Engineering Maintenance Principles, Practices, and Administration

Course Number: *Version 1:* A-651-0064. *Version 2:* A-651-0064.

Location: *Version 1:* Fleet Training Center, Norfolk, VA. *Version 2:* Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 3 weeks (97 hours). *Version 2:* 3 weeks (97 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 1/90–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform and supervise general mechanical maintenance. *Version 2:* Upon completion of the course, the student will be able to perform and supervise general mechanical maintenance.

Instruction: *Version 1:* Classroom and practical exercises cover instrumentation of machinery, mechanical fasteners, mechanical seals, lubrication, bearings, and couplings. Course includes administrative procedures for performing maintenance on mechanical systems and for spare part procurement. *Version 2:* Classroom and practical exercises cover instrumentation of machinery, mechanical fasteners, mechanical seals, lubrication, bearings, and couplings. Course includes administrative procedures for performing maintenance on mechanical systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in lecture and laboratory in machinery maintenance (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in machinery maintenance (3/89).

NV-1710-0109

Boiler Technician Steam Propulsion Maintenance Supervisor

Course Number: A-651-0083.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 17-18 weeks (675 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to organize, perform, and supervise preventive and corrective maintenance on the mechanical systems associated with steam power generation systems, not including main steam turbines and high-pressure compressors.

Instruction: This is a pipeline course made up a A-651-0064, Engineering Maintenance Principles, Practices, and Administration (NV-1710-0108); A-651-0065, Valve and Steam Trap Maintenance (Valve Maintenance) (NV-1732-0018); A-651-0067, Pump Maintenance (NV-1710-0091) or (NV-1710-0158); A-651-0069, Auxiliary Machinery Controls, Governors, and Regulators Maintenance (Governor and Regulator Maintenance) (NV-1710-0086) or (NV-1710-0159); A-651-0068, Auxiliary Machinery Turbine Maintenance (Auxiliary Turbine Maintenance) (NV-1704-0321); A-651-0074 Forced Draft Blower Maintenance (NV-1710-0110); and A-651-0075, Steam Generator Maintenance (NV-1732-0017). (A-651-0071, Distilling Plant Condenser and Heat Exchanger Maintenance was too brief for evaluation.) For descriptions, see the individual courses.

Credit Recommendation: Please refer to the individual exhibits as noted above for credit recommendation (3/89).

NV-1710-0110

Forced Draft Blower Maintenance

Course Number: A-651-0074.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform forced draft blower component maintenance, including steam turbine drives, lubricating systems, and fans.

Instruction: Classroom instruction, demonstrations and practical experience cover the above subject matter.

Credit Recommendation: In the vocational certificate category, 1 semester hour in steam power systems maintenance or repair (6/94).

NV-1710-0111

Three Winch Controller Using Standard Electronic Modules (SEM) and Controls for Logic Elevators

Course Number: A-690-0030.

Location: Technical Training Center, Treasure Island, San Francisco, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of multivibrators, power supplies, and operational amplifiers; troubleshoot the logic elevator simulator to the circuit board level in accordance with standard Navy procedures; describe the hydraulic operation of third generation Western Gear sealed transmissions; state the function and designation of the pressure controls; check pilot-operated, solenoid-operated, and servo-operated valves.

Instruction: Lecture and laboratory exercises cover the maintenance and repair of a three winch controller.

Credit Recommendation: In the vocational certificate category, 6 semester hours in elevator repair (8/89).

NV-1710-0112

Standard Tensional Replenishment Alongside Methods (STREAM) Operator

Course Number: A-060-0025.

Location: Technical Training Center, Treasure Island, San Francisco, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to safely perform procedures utilizing standard tensioned replenishment alongside methods.

Instruction: Lectures and practical exercises cover raw-tensioned, high-line system operation, including standard methods of replenishment at sea, preventive maintenance of station components, safety precautions, and emergency breakaway procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in nautical science (cargo operations) (8/89).

NV-1710-0113

Underway Replenishment Mechanical and Hydraulic Component Maintenance

Course Number: A-690-0028.

Location: Technical Training Center, Treasure Island, San Francisco, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to relate principles of hydraulics to construction, operation, and maintenance of mechanical/hydraulic machinery such as pumps, actuators, accumulators etc., associated with the standard tensioned replenishment alongside methods.

Instruction: Lecture and labs cover principles of hydraulics, construction, operation, and maintenance of hydraulic equipment; interpretation of hydraulic system drawings; and troubleshooting techniques for mechanical hydraulic equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in mechanical technology (hydraulic) and 2 in hydraulic laboratory (8/89).

NV-1710-0114

Nuclear Propulsion Plant Operators Welding

(Nuclear Power Plant Operator Welder)

Course Number: A-701-0015.

Location: Service School Command, San Diego, CA; Submarine Base, New London, Groton, CT.

Length: 10-12 weeks (400-480 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic welding and apply intermediate and advanced welding or welding supervisor instruction up to ASME pressure vessel standards and nuclear code standards.

Instruction: Lectures cover safety, welding and silver brazing processes, and nondestructive testing processes. Laboratory sessions are used to bring the student to a reasonable level of proficiency in welding (or brazing) pipe or plate. Repairs to welds and braze joints are also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours lecture and 3 semester hours laboratory in welding processes, brazing processes, and nondestructive testing processes. Note that this course duplicates A-701-0031 (NV-1732-0019). Credit should not be awarded for both (12/93).

NV-1710-0115

Shielded Metal Arc Welding

Course Number: A-701-0053.

Location: Submarine Base, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Learning Outcomes: Upon completion of the course, the student will be able to perform metal arc welding on ferrous materials. The student will be able to position the work, set up the equipment, select welding rod, weld, remove slag, visually inspect, and make repairs to the work.

Instruction: Lectures and practical exercises cover safety precautions, equipment setup, equipment operation, welding techniques, and visual inspection and acceptance standards.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic welding (shielded metal arc) (10/89).

NV-1710-0116

Fuel Gas Welding, Brazing, and Cutting

Course Number: A-701-0054.

Location: Submarine Base, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Learning Outcomes: Upon completion of the course, the student will be able to weld, braze, cut, and solder using fuel gases such as acetylene and propane. The student will be able to describe theory, equipment characteristics, and safety precautions involved with the welding. Student will be able to position the work, set up the equipment, perform the work, visually inspect it, and make repairs.

Instruction: Lectures and extensive practical exercises cover the above subjects.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic gas welding, brazing, soldering, and cutting (10/89).

NV-1710-0117

Construction Mechanic, Class A

Course Number: A-610-0022.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: 13 weeks (528 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the principles of electrical systems, operation of two-stroke cycle and four-stroke cycle engines, theory of suspension and steering systems, theory of hydraulics, operation of air and hydraulic brake systems, and fundamentals of fuel injection systems for diesel engines and automotive power train; service hydraulic brakes, electrical systems, engines, suspension and steering, automotive power train, and diesel fuel injection; conduct preventive maintenance on all vehicles to meet manufacturers' specifications; and perform oxyacetylene welding and cutting operations and minor auto body repair and painting.

Instruction: Lectures and practical exercises cover automotive and mobile equipment, including two-stroke cycle and four-stroke cycle engine theory, electrical systems, hydraulic brake systems, power train systems, and preventive maintenance of vehicles and equipment following all safety procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive electrical systems and 3 in hydraulic brake service (3/91).

NV-1710-0118

1. Builder, Class A, Navy
2. Builder, Class A

Course Number: *Version 1:* A-710-0010. *Version 2:* A-710-0010.

Location: *Version 1:* Construction Training Center, Gulfport, MS. *Version 2:* Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: *Version 1:* 12 weeks (480 hours). *Version 2:* 13 weeks (464 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 6/91–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to read and understand basic drawings and specifications for light-frame construction, heavy timber bridge construction, and pre-engineered building construction and perform, under supervision, masonry construction, light-frame construction, interior and exterior finishing, built-up roofing applications, wood frame structure preservation, heavy timber bridge construction, and pre-engineered building construction. *Version 2:* Upon completion of the course, the student will be able to read and understand basic drawings and specifications for light-frame construction, heavy timber bridge construction, and pre-engineered building construction and perform, under supervision, masonry construction, light-frame construction, interior and exterior finishing, built-up roofing applications, wood frame structure preservation, heavy timber bridge construction, and pre-engineered building construction.

Instruction: *Version 1:* Lectures, audiovisual instruction, and hands-on applications cover the use of hand tools and portable machinery and include plan reading, concrete construction, masonry construction, light-frame construction, interior finishing, hot built-up roofing and composite shingle construction, heavy timber frame construction, and pre-engineered building erection. *Version 2:* Lectures, audiovisual instruction, and hands-on applications cover the use of hand tools and portable machinery and include plan reading, concrete construction, masonry construction, light-frame construction, interior finishing, hot built-up roofing and composite shingle construction, heavy timber frame construction, and pre-engineered building erection.

Credit Recommendation: *Version 1:* In the vocational certificate category, 2 in applied mathematics (4/97); in the lower-division baccalaureate/associate degree category, 3 in construction materials, 4 in framing and exterior finish, 3 in interior finish, and 1 in technical mathematics. Credit is to be granted in either category, but not in both (4/97). *Version 2:* In the vocational certificate category, 8 semester hours in residential building construction (3/91); in the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading and 3 in methods of (residential) building construction (3/91).

NV-1710-0119

Construction Mechanic, Class C-1 Advanced

Course Number: A-610-0011.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: 13 weeks (486 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to explain the use of precision tools, function of engine analyzer, gear ratios, principles of hydraulics, and geometry of steering and suspension systems; perform engine overhaul, engine tune-up, automatic transmission reconditioning, manual transmission reconditioning, differential and drive line adjustment and repair, electrical system repair, and air and hydraulic brake system overhaul to meet manufacturer's specifications; service and repair heavy equipment power trains; supervise other mechanics; and complete reports.

Instruction: Lectures and practical exercises cover repair and reconditioning of automobiles and other vehicles and their component parts, including engines, transmissions, differentials, drive lines, electrical systems, brake systems, steering suspension systems, and diesel fuel injection systems. Course also includes supervisory and training duties.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in engine performance (tune-up), 3 in engine overhaul, 3 in automotive electrical systems, 3 in suspension and steering systems, 3 in automatic transmission reconditioning, 3 in manual transmission and drive axle, and 3 in diesel fuel injection systems (3/91).

NV-1710-0120

1. Advanced Builder
2. Builder, Class C-1 Advanced

Course Number: *Version 1:* A-710-0011. *Version 2:* A-710-0011.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 10 weeks (400 hours). *Version 2:* 13 weeks (479 hours).

Exhibit Dates: *Version 1:* 10/96–Present. *Version 2:* 1/90–9/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to supervise the construction of foundations and footings, masonry components, wood framing, walls, stairs, and roofs, including the installation of interior and exterior trim and preparation of painted surfaces for buildings, heavy timber structures, and waterfront structures; perform job planning, estimating, and material takeoff for the various construction components; and supervise the mixing, placing, finishing, curing, and testing of concrete. *Version 2:* Upon completion of the course, the student will be able to supervise the construction of foundations and footings, masonry components, wood framing, walls, stairs, and roofs, including the installation of interior and exterior trim and preparation of painted surfaces for buildings, heavy timber structures, and waterfront structures; perform job planning, estimating, and material takeoff for the various construction components; and supervise the mixing, placing, finishing, curing, and testing of concrete.

Instruction: *Version 1:* Lectures and practical exercises cover building supervision, including job safety, construction drawings and specifications, light-frame construction, roofing, in-shop machinery and fabrication, timber bridge construction, pile placement, concrete construction, and masonry construction. Course also includes introduction to planning, estimating, and scheduling. *Version 2:* Lectures and practical exercises cover building supervision, including job safety, construction drawings and specifications, light-frame construction, roofing, in-shop machinery and fabrication, timber bridge construction, pile placement, concrete construction, and masonry construction. Course also includes introduction to planning, estimating, and scheduling.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 6 semester hours in building construction practices, 1 in project management, 4 in materials and methods of construction, and 1 in estimating and planning (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in personnel supervision (3/91); in the upper-division baccalaureate category, 3 semester hours in advanced materials and methods of construction, 1 in planning and scheduling, and 1 in advanced estimating (3/91).

NV-1710-0121

Gas Turbine Hot Plant, Class A

Course Number: A-652-0318.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (168 hours).

Exhibit Dates: 9/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate shipboard gas turbine main propulsion and auxiliary systems; perform as an equipment monitor on gas turbine; and operate and perform assigned scheduled maintenance on the propulsion system, electrical system, power generation/distribution system, auxiliary support system, pneumatic system, lube oil systems, fire fighting systems, and cooling water system.

Instruction: Classroom lectures, demonstrations, and practice exercises are used in conjunction with an actual and a simulated power plant to cover gas turbine operations and maintenance, gas turbine propulsion, and auxiliary systems operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine power plant operations technology and 1 in gas turbine power plant operations and maintenance laboratory (6/91).

NV-1710-0122

Engineman Six Year Obligor Advanced
Operator/Maintenance Core

Course Number: A-652-0304.

Location: Service School Command, Great Lakes, IL.

Length: 5 weeks (200 hours).

Exhibit Dates: 5/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform normal day-to-day operation and maintenance functions on auxiliary equipment. Systems include fuel oil testing, lube oil testing, jacket water testing, air compressor and air dehydration systems, and water distilling and purification systems. Correct procedures for the use of the maintenance, materiel, and management system are learned.

Instruction: Classroom lectures, demonstrations, and performance exercises cover the operation and maintenance of auxiliary systems, including fuel and lube oil systems, pneumatic systems, and fresh and potable water systems. Data entry and use of preventive maintenance system are demonstrated.

Credit Recommendation: In the vocational certificate category, 2 semester hours in operation and maintenance of auxiliary equipment and 1 in industrial safety (6/91).

NV-1710-0123

Engineman Six Year Obligor Advanced
Operator/Maintenance Auxiliary
Strand

Course Number: A-652-0325.

Location: Service School Command, Great Lakes, IL.

Length: 8 weeks (320 hours).

Exhibit Dates: 7/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain and troubleshoot diesel engines, auxiliary steam systems, elevators, conveyors, steam-driven washers, dryers, presses, water heaters, marine anchor and boat handling equipment, diesel electric power plant control panels, and diesel propulsion systems.

Instruction: Classroom lectures, demonstrations, and performance exercises provide descriptive fundamental theory to support the performance and normal operation, maintenance, and troubleshooting procedures on the above listed equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in mechanical operation, maintenance, and troubleshooting and 2 in electrical operation, maintenance, and troubleshooting, or 1 in in mechanical blueprint reading, 1 in electrical blueprint reading, and 1 in industrial safety (6/91).

NV-1710-0124

Boiler Technician Six-Year Obligator (BT-6YO) Advanced Maintenance

Course Number: A-651-0080.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 3/90–6/95.

Learning Outcomes: Before 3/90 see NV-1710-0081. Upon completion of the course, the student will be able to perform preventive and corrective maintenance and repair on steam plant and propulsion system components, including mechanical fasteners, gaskets, packing, mechanical seals, flexible couplings, sliding and rolling contact bearings, valves, centrifugal pumps, turbine generators, condensers, heat exchangers, boiler hand-hole plates, and gauge glasses.

Instruction: Classroom lectures, demonstrations, and performance exercises provide the knowledge and skills required to perform steam propulsion plant maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in steam power plant maintenance and 1 in steam power plant maintenance laboratory (3/92).

NV-1710-0125

Machinist's Mate Six-Year Obligator (MM 6YO) Advanced Maintenance

Course Number: A-651-0114.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Before 6/90 see NV-1710-0094. Upon completion of the course, the student will be able to perform preventive and corrective maintenance and repair on steam plant and propulsion system components, including mechanical fasteners, gaskets, packing, mechanical seals, flexible couplings, sliding and rolling contact bearings, valves, centrifugal pumps, turbine generators, condensers heat exchangers, boiler hand-hole plates and gauge glasses.

Instruction: Classroom lectures, demonstrations, and performance exercises provide the knowledge and skills required to perform steam and propulsion plant maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in steam power plant maintenance and 1 in steam power plant maintenance laboratory (3/92).

NV-1710-0126

Machinist's Mate Six-Year Obligator (MM 6YO) Advanced Operations

Course Number: A-651-0105.

Location: Service School Command, Great Lakes, IL.

Length: 6 weeks (216 hours).

Exhibit Dates: 3/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to identify high-pressure steam propulsion plant equipment and components; describe and perform normal equipment and system operation, start-up, and shutdown procedures; identify subsystem interconnectors; operate the plant equipment; keep appropriate records; make basic quantity calculations associated with plant operation; and perform watchstanding maintenance tests.

Instruction: Classroom lectures, demonstrations, performance exercises, laboratory instruction, and practice support the operation of a high-pressure stream propulsion system and its associated equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in steam power plant operation and 1 in steam power plant operation laboratory (6/91).

NV-1710-0128

1. Machinist's Mate, Class A (1200 PSI)
2. Machinist's Mate, Class A

Course Number: *Version 1:* A-651-0053. *Version 2:* A-651-0053.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 4 weeks (157 hours). *Version 2:* 10 weeks (392 hours).

Exhibit Dates: *Version 1:* 11/94–Present. *Version 2:* 1/91–10/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to identify basic steam propulsion plant components, describe their operation, and perform basic maintenance on them. Students will be able to perform the duties of engine room shutdown watchstanders. *Version 2:* Upon completion of the course, the student will be able to identify basic steam propulsion plant components, describe their operation, and perform basic maintenance on them. Students will be able to perform the duties of engine room shutdown watchstanders.

Instruction: *Version 1:* Classroom lectures, demonstrations, and performance exercises are used to provide description of the operation of steam plant equipment and perform basic maintenance and repair. *Version 2:* Classroom lectures, demonstrations, and performance exercises are used to provide nomenclature and basic description of the operation of steam plant equipment. Laboratories provide skills needed to perform basic maintenance and repair of valves. Safety procedures are emphasized. Topics presented include hand tool use; valve packing and repair procedures; description of pumps, heat exchangers, fire fighting equipment, pneumatic systems, steam cycle components, turbine operations, basic turbo generator, and electrical distribution systems; distilling plants; and damage control basics.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in boiler operations (12/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 6 semester hours in steam plant fundamentals and 1 in steam plant maintenance laboratory (6/91).

NV-1710-0129

1. Boiler Technician, Class A (1200 PSI)
2. Boiler Technician, Class A

Course Number: *Version 1:* A-651-0052. *Version 2:* A-651-0052.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 4 weeks (157 hours). *Version 2:* 10 weeks (392 hours).

Exhibit Dates: *Version 1:* 11/94–Present. *Version 2:* 1/91–10/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to identify basic steam propulsion plant components, describe their operation, and perform basic maintenance on them. Students will be able to perform the duties of engine room shutdown watchstanders. *Version 2:* Before 1/91 see NV-1710-0084. Upon completion of the course, the student will be able to identify basic steam propulsion plant components, describe their operation, and perform basic maintenance on them. Students will be able to perform the duties of engine room shutdown watchstanders.

Instruction: *Version 1:* Classroom lectures, demonstrations, and performance exercises are used to provide description of the operation of steam plant equipment and perform basic maintenance and repair. *Version 2:* Classroom lectures, demonstrations, and performance exercises are used to provide nomenclature and basic descriptions of the operation of steam plant equipment. Labs provide skills needed to perform basic maintenance and repair of valves. Safety procedures are emphasized. Specific topics presented include hand tools use; valve parts and repair procedures; descriptions of pumps, heat exchangers, fire fighting equipment, pneumatic systems, steam cycle, and components; turbine operation; basic turbo electric generation and electrical distribution system; distilling plants; and damage control basics.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in boiler operations (12/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 6 semester hours in steam plant fundamentals and 1 in steam plant maintenance laboratory (6/91).

NV-1710-0130

Equipment Operator, Class A

Course Number: *Version 1:* A-730-0010. *Version 2:* A-730-0010.

Location: *Version 1:* Construction Training Center Detachment, Ft. Leonard Wood, MO. *Version 2:* Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 13-14 weeks (540 hours). *Version 2:* 9 weeks (360 hours).

Exhibit Dates: *Version 1:* 2/96–Present. *Version 2:* 1/90–1/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to inspect, maintain, and operate material handling, construction, and earth-moving equipment and perform basic sitework and operations. *Version 2:* Upon completion of the course, the student will be able to check, maintain, and operate automobiles, material handling equipment, and construction and earthmoving equipment in the field.

Instruction: *Version 1:* Lectures and practical exercises cover front-end loader, forklift, grader, and crawler tractor operation, adjustment, and servicing, including internal combustion engine, fuels, and lubricants; earthwork fundamentals; equipment production; hauling, loading, and lifting equipment adjustment, operation, and servicing; soil compactor operation; tractor-drawn scraper operation; site plan reading; earthwork procedures; and site layout. *Version 2:* Lectures and practical exercises cover automobile, front-end loader, forklift, grader, and crawler tractor operation, adjustment, and servicing, including internal combustion engine, fuels, and lubricants; earthwork fundamentals; equipment production; hauling, loading, and lifting equipment adjustment, operation, and servicing; soil compactor operation; and tractor-drawn scraper operation.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in construction sitework, 8 in heavy construction equipment operation, and 3 in construction equipment maintenance (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 6 semester hours in heavy construction equipment and 2 in construction equipment maintenance (6/91).

NV-1710-0131

ADVANCED EQUIPMENT OPERATOR

Course Number: A-730-0011.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: 12 weeks (504 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to manage and supervise projects; apply advanced production principles to earthwork and asphalt mixing and paving techniques; adjust and service asphalt distributors, pavers, cranes, and road rollers; and apply principles and techniques of foremanship necessary for a crew leader on a construction project.

Instruction: Lectures and practical exercises cover supervision and planning, including the areas of foremanship, personnel readiness, quality control, administration, earthwork computations, surveying, material and equipment estimating, project planning, asphalt mixing/design/operations, crane operations and attachments, and transportation of construction equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in supervision, planning and estimating in highway construction (6/91).

NV-1710-0132

UTILITIESMAN ADVANCED

Course Number: A-720-0013.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: 12 weeks (483 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply management skills to a specific project; operate water treatment equipment; install and maintain a water supply and sewage treatment plant; apply plumbing skills to water distribution systems and sewage systems; and maintain boiler, refrigeration, and air conditioning systems.

Instruction: Lectures and practical exercises in utility systems maintenance and repair, including plumbing, sewage disposal, blueprint reading, boilers, refrigeration, pumps, compressors, air conditioning, water treatment, and basic electricity.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic plumbing, 2 in basic electronics, 2 in water purification, 3 in air conditioning and refrigeration, and 2 in steam and hot water heating (6/91).

NV-1710-0133

UTILITIESMAN SHORE BASED BOILER CONTROLS TECHNICIAN, CLASS C

Course Number: A-720-0022.

Location: Construction Training Center, Port Hueneme, CA.

Length: 7 weeks (221 hours).

Exhibit Dates: 1/90–2/96.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, maintain, and operate steam heating boilers and use electrical and pneumatic controllers, system components, safety switches, and testing meters.

Instruction: Lectures, demonstrations, audiovisuals, teaching aids, and practical experiences cover troubleshooting, repair, operation, and maintenance of steam heating boilers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in automatic controllers, 1 in basic electricity, 2 in boiler operation and maintenance, and 2 in electrical circuits (6/91).

NV-1710-0134

EQUIPMENT OPERATOR BLASTING AND QUARRY OPERATIONS

Course Number: A-730-0019.

Location: Construction Training Center, Port Hueneme, CA.

Length: 5 weeks (194 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to handle, transport, and store explosives; operate equipment for drilling and loading explosives; handle blasting equipment, primers, and explosives for blasting operations; and supervise the operation of quarries in peacetime and contingency operations.

Instruction: Lectures and practical exercises cover drilling, placing charges, detonation procedures, and construction blasting; quarry layout; and development and operation of a quarry and rock crushing operation.

Credit Recommendation: In the vocational certificate category, 2 semester hours in basic geology and 3 in quarry management (6/91).

NV-1710-0135

LANDING CRAFT, AIR CUSHION CRAFT CONTROL SYSTEMS MAINTENANCE

Course Number: K-652-0315.

Location: Amphibious School, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the landing craft control system and calibrate, troubleshoot, and repair the control system and its subsystems.

Instruction: Classroom lectures and practical applications, films, and onboard training are course methods. Student must successfully complete progress tests in craft control auxiliary systems, engine/auxiliary power unit control systems, alarm and monitor systems, and craft control maneuvering systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical systems repair (3/92).

NV-1710-0136

AVIATION SUPPORT EQUIPMENT DIESEL ENGINE DRIVEN FORK LIFT TRUCKS INTERMEDIATE MAINTENANCE

Course Number: C-602-3268.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, maintain, and repair the fuel, electrical, and hydraulic systems of a diesel engine forklift truck.

Instruction: Lectures, practical exercises, and examinations cover operational checkout procedures, maintenance documentation, proper use of tools and test equipment, and safety precautions in the maintenance of this piece of equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in heavy equipment maintenance (7/92).

NV-1710-0137

PROPULSION ALARM AND INDICATING SYSTEMS MAINTENANCE, CLASS C-1

Course Number: A-651-0047.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3-4 weeks (133-160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, students will be able to perform preventive and corrective maintenance on pressure alarms, temperature alarms, liquid-level alarms, salinity-indicating systems, fire room emergency alarms, and wrong direction alarms on a propulsion alarm and indicating system.

Instruction: Review of DC and AC circuit parameters and semiconductor devices is included. Lectures and practical exercises cover calibration; troubleshooting; and preventive and corrective maintenance for pressure, temperatures, liquid-level, salinity-indicating, and fire room emergency alarm systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in maintenance of remote indicating devices (11/95).

NV-1710-0138

GTCP95-2 and GTCP95-3 Gas Turbine Engine Intermediate Maintenance

Course Number: C-601-3575.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 2-3 weeks (115 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory of operation and maintenance of gas turbine engines, troubleshoot engines, and repair to airworthy standards.

Instruction: Lectures and laboratories use gas turbine engines and test equipment, including engine analyzer, test kit for bleed air flow, thermostat calibration, vibration pickup, pneumatic regulator pressure test.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic turbine engine theory and maintenance (3/93).

NV-1710-0140

Advanced Composite Materials Maintenance

Course Number: C-603-3868.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 5 weeks (160 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect and repair composite materials.

Instruction: With a combination of lecture and practical application, the student will gain hands-on working experience with the inspection and repair procedures related to adhesive mixing, damage evaluation, composite laminate structures, installation of bolted repair patches, graphite-epoxy skin, aluminum honeycomb cone structure, strain gauge installation, Kevlar-Epoxy skin, and Nomex honeycomb cone structure.

Credit Recommendation: In the vocational certificate category, 3 semester hours (1 lecture, 2 laboratory) in composite structure repair (8/93).

NV-1710-0141

Console Operator Training
(Gas Turbine System Operator (DDG-51))

Course Number: A-652-0337.

Location: Service School Command, Great Lakes, IL.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate ship's propulsion and electrical control consoles on gas turbine powered vessels.

Instruction: Classroom lectures, demonstrations, and performance exercises are used to provide basic knowledge of equipment control consoles, basic operation of the consoles, and casualty control training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine control system operation laboratory (12/95).

NV-1710-0142

Console Operator Training
(Gas Turbine System Technician Advanced Operator (DD-963/DDG-993/CG-47))

Course Number: A-652-0336.

Location: Service School Command, Great Lakes, IL.

Length: 3-4 weeks (120-150 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate ship's propulsion and electrical control consoles on gas turbine powered vessels.

Instruction: Classroom lectures, demonstrations, and performance exercises are used to provide basic knowledge of equipment control consoles, basic operation of the consoles, and casualty control training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine control system operation laboratory (12/95).

NV-1710-0143

Gas Turbine Systems (Mechanical), Class C
(Gas Turbine System Technician Advanced Operator (FFG-7))

Course Number: A-652-0334.

Location: Service School Command, Great Lakes, IL.

Length: 3-4 weeks (120-150 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate ship's propulsion and electrical control consoles on gas turbine powered vessels.

Instruction: Classroom lectures, demonstrations, and performance exercises are used to provide basic knowledge of equipment control consoles, basic operation of the consoles, and casualty control training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine control system operation laboratory (12/95).

NV-1710-0144

Gas Turbine System Technician (GS)
Advanced Hot Plant GL-7 Strand

Course Number: A-652-0333.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (140 hours).

Exhibit Dates: 8/92–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain shipboard gas turbine main propulsion unit, auxiliary equipment, and electrical systems. Student will be familiar with watchstanding procedures, safety, and standard operation and maintenance procedures. Systems are specific to FFG-7/GL-7 type plants.

Instruction: Lectures and practical exercises cover watchstanding, safety, terminology, theory, measurement, and functional relationships as applied to gas turbine plant operation. Plant auxiliary systems are also covered, including auxiliary boiler, distilling plant, fuel oil system, lube oil system, ship service diesel generators, air compressors, cooling systems, and electrical distribution system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine power plant operations and 1 in gas turbine operations laboratory (10/93).

NV-1710-0145

Gas Turbine System Technician, Class A, Hot Plant

Course Number: A-652-0319.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and operate a gas turbine propulsion plant and auxiliary systems and perform as an equipment monitor on gas turbine power plants.

Instruction: Classroom lectures, demonstrations, and practical exercises are used in conjunction with an actual and simulated power plant to cover gas turbine operation and maintenance, gas turbine propulsion, and auxiliary system operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine power plant operations and 1 in gas turbine operations laboratory (10/93).

NV-1710-0146

Gas Turbine System Technician (GS)
Advanced Hot Plant

Course Number: A-652-0312.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (140 hours).

Exhibit Dates: 8/91–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain shipboard gas turbine main propulsion unit, auxiliary equipment, and electrical systems. Student will be familiar with watchstanding procedures, safety, and standard operation and maintenance procedures. Systems are specific to CG-49/GL-47 type plants.

Instruction: Lectures and practical exercises cover watchstanding, safety, terminology, theory, measurement, and functional relationships as applied to gas turbine plant operation. Plant auxiliary systems are also covered, including auxiliary boiler, distilling plant, fuel oil system, lube oil system, ship service diesel generators, air compressors, cooling systems, and electrical distribution system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine power plant operations and 1 in gas turbine operations laboratory (10/93).

NV-1710-0147

1. Gas Turbine Systems (Mechanical), Class C
2. Advanced Training Phase II Mechanical Maintenance

Course Number: *Version 1:* A-652-0303. *Version 2:* A-652-0303.

Location: *Version 1:* Training Center, Great Lakes, IL. *Version 2:'* Service School Command, Great Lakes, IL.

Length: *Version 1:* 14 weeks (560 hours). *Version 2:* 17 weeks (680 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 5/91–12/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain gas turbine propulsion and auxiliary equipment. Students will apply basic engineering theory and the use of electronic test equipment to the maintenance of the LM-2500 and Allison 501-K17 gas turbine engines and their propulsion-related auxiliaries. *Version 2:* Upon completion of the course, the student will be able to maintain gas turbine propulsion and auxiliary equipment. Students will apply basic engineering theory and the use of electronic test equipment to the maintenance of the LM-2500 and Allison 501-K17 gas turbine engines and their propulsion-related auxiliaries.

Instruction: *Version 1:* Lectures, laboratory exercises using an interactive electronic classroom, practical demonstrations, and actual equipment are used to learn maintenance procedures on gas turbines and related equipment, including brakes, clutches, shafting and bearings, controllable-pitch propellers and hydraulic systems, lube oil purifiers and systems, pumps and pumping systems, reduction gears, turbine generator systems, and waste heat recovery boilers. *Version 2:* Lectures, laboratory exercises, practical demonstrations, and the use of actual equipment are used to learn maintenance procedures on gas turbines and related equipment, including brakes, clutches, shafting and bearings, controllable-pitch propellers and hydraulic systems, lube oil purifiers and system, pumps and pumping systems, reduction gears, turbine generator systems, and waste heat recovery boilers.

Credit Recommendation: *Version 1:* In the vocational certificate category, 6 semester hours in gas turbine power plant maintenance (12/95); in the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine power systems laboratory (12/95). *Version 2:* In the vocational certificate category, 6 semester hours in gas turbine power plant maintenance (10/93); in the lower-division baccalaureate/associate degree category, 1 semester hour in gas turbine power systems laboratory (10/93).

NV-1710-0148

Ultrasonic Shearwave Inspector

Course Number: A-701-0047.

Location: Service School Command, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/93–1/98.

Learning Outcomes: Upon completion of the course, the student will be be to perform ultrasonic inspection of welded metal components.

Instruction: Group-paced lectures and practical exercises cover ultrasonic inspection theory, standards, and equipment. Student performance tests and oral feedback are required.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in ultrasonic testing of welded components (11/93).

NV-1710-0149

Nuclear Power Plant Components Welder

Course Number: A-701-0028.

Location: Service School Command, San Diego, CA.

Length: 14 weeks (560 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Before 1/93 see NV-1710-0069. Upon completion of the course, the student will be able to weld nuclear power plant components and qualify as a nuclear power plant welder.

Instruction: Lectures and extensive practical laboratory experiences cover the use of gas tungsten arc welding equipment to join nuclear power plant components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in gas tungsten arc welding theory and 6 in gas tungsten arc welding of nuclear components laboratory (11/93).

NV-1710-0150

Non-Nuclear Component Welder

Course Number: A-701-0027.

Location: Service School Command, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Before 1/93 see NV-1710-0051. Upon completion of the course, the student will be able to perform as a welder using shielded metal arc and gas tungsten welding equipment.

Instruction: Lectures and extensive practical laboratory experience cover the theory and practice of welding include both plating and pipe material of chromium molybdenum and carbon molybdenum.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in welding theory and 6 in plate and pipe welding laboratory (11/93).

NV-1710-0151

General Maintenance Welding, Class C1

Course Number: A-701-0026.

Location: Service School Command, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Before 9/91 see NV-1710-0050. Upon completion of the course, the student will be able to perform oxygen acetylene silver brazing; visual and liquid penetrant inspection; gas metal arc welding—aluminum; shielded metal arc welding—plate; shielded metal arc welding—pipe, and emergency boiler repair.

Instruction: By use of lecture, audiovisuals, demonstrations, and extensive hands-on learning experiences, introduction to general maintenance welding, oxygen-acetylene brazing, visual and liquid penetrant testing of welds, gas metal arc welding of aluminum, shielded metal arc welding of plate, and shielded metal arc welding of pipe are covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in metal arc welding (11/93).

NV-1710-0152

T-58GE-16 Intermediate Maintenance First Degree Repair, Class C1

Course Number: C-601-3152.

Location: Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, New River, NC.

Length: 6 weeks (176 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to remove, disassemble, repair, and replace components in the T-58 turboshaft engine.

Instruction: Course covers the theory of operation of gas turbine engines including airflow patterns and system functions; oil, fuel, electrical, and accessory sections; engine module disassembly and repair; and power turbine, compressor, combustion, and gas producer including QEC package components. Methodology includes lecture and laboratory experiences using mock-ups and live engine components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft turbine engines (7/94).

NV-1710-0154

Machinist's Mate, Class A

Course Number: A-661-0103.

Location: Nuclear Power Training Command, Orlando, FL.

Length: 13 weeks (335 hours).

Exhibit Dates: 3/94–Present.

Learning Outcomes: Upon completion of the course, the student will have a basic understanding of the theory and operation of a steam power plant; be able to perform basic arithmetic operations; operate tools, test equipment, and system components; read blueprints; practice rigging techniques; and perform maintenance procedures.

Instruction: The course is conducted through classroom and laboratory mode. The mathematics component covers arithmetic operations, scientific notation, first-order algebraic equations, metric prefixes, conversions, exponents, polynomials, introduction to trigonometric functions and vector notation, colinear and noncolinear vectors, complex numbers, polar and rectangular conversions, phasor diagrams, and solution of electrical problems using phasors. Basic concepts of geometry include calculating area, volume, and perimeter. The classroom instruction in the mechanical component includes mechanical equipment (energy and force equations, basic fluid and thermodynamics, mass and energy balance, heat exchangers, condensers, pumps, air compressors, and refrigeration); air conditioning and ventilation (steam turbines, steam cycle, and component and system maintenance). The laboratory portion covers compressed air, steam turbine, reduction gears, basic fluid theory, heat exchanger, and pumps. In the basic machinery classroom instruction component, topics include safety, hand tools, maintenance, rigging, blueprint reading, engineering labs, piping, tubing, flexible hoses, valves (gate, globe, needle, regulating, relief, check, ball, butterfly, and pressure control), packing and gaskets, precision measuring instruments, steam traps, fundamentals of lubrication, oil purification, and pump couplings. The laboratories cover hand tools, rigging, blueprint reading, packing and gaskets, piping, valves as listed above, precision measuring instruments, steam traps, fundamentals of lubrication, oil purification (Sharples, and Delaval), and pump couplings. Tools include basic hand tools and precision measuring equipment such as calipers, micrometers, vernier calipers, depth gages, torque wrenches, pressure gages, and mechanical test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics including algebra II, 3 in mechanical physics, and 3 in steam plant operations (turbines, condensers, heat exchangers, and system components) (2/95).

NV-1710-0155

General Regulator Automatic Boiler Control (ABC) Maintenance

Course Number: A-651-0040.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: Group-paced, 8 weeks (317 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Before 11/91 see NV-1710-0072. Upon completion of the course, the student will be able to operate, maintain, and calibrate the general regulator automatic boiler control systems.

Instruction: Methods of instruction consist of both lecture and laboratory exercises. Students cover topics in the operation, maintenance, and calibration of the general regulator automatic boiler control system, including air and fuel regulation, multi-element feed water and feed pump controls, systems, and component calibration and troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in automatic control or high-pressure boiler operation (11/95); in the lower-division baccalaureate/associate degree category, 1 semester hour in automatic control instrumentation laboratory (11/95).

NV-1710-0156

Hagan Automatic Boiler Control (ABC) Maintenance

Course Number: A-651-0041.

Location: Fleet Training Center, Norfolk, VA.

Length: 7 weeks (280 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Before 11/91 see NV-1710-0073. Upon completion of the course, the student will be able to operate, maintain, and calibrate the Hagan automatic boiler control system.

Instruction: Methods of instruction include lecture and laboratory exercises. Topics covered include the operation, maintenance, and calibration of the Hagan boiler control system, including air and fuel regulation, multi-element feed water and feed pump controls, system and component calibration, and troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in automatic control or high-pressure boiler operation (11/95); in the lower-division baccalaureate/associate degree category, 1 semester hour in automatic control instrumentation laboratory (11/95).

NV-1710-0157

General Regulator Automatic Boiler Control (ABC) Console Operator

Course Number: A-651-0046.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 11/95–Present.

Learning Outcomes: Before 11/95 see NV-1710-0079. Upon completion of the course, the student will be able to operate a general regulator automatic boiler control console.

Instruction: Methods of instruction include lectures and practical experience in automatic boiler control console operation and procedures. Topics covered include automatic boiler control and a typical automatic combustion control system, feed water control, feed pump differential pressure control, feed pump recirculation controls, and air locks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour as a technical elective in manufacturing technology, mechanical technology, or engineering technology (11/95).

NV-1710-0158

Pump Maintenance

Course Number: A-651-0067.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (100 hours).

Exhibit Dates: 6/95–Present.

Learning Outcomes: Before 6/95 see NV-1710-0091. Upon completion of the course, the student will be able to inspect and maintain pumps.

Instruction: Methods of instruction include classroom instruction and practical hands-on exercises. Topics include pump inspection and maintenance, including centrifugal, reciprocating, and rotary type pumps; external and internal inspection; troubleshooting; disassembly, repair, and testing; and record keeping.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery pump repair (11/95); in the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems laboratory (11/95).

NV-1710-0159

Governor and Regulator Maintenance

Course Number: A-651-0069.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 6/95–Present.

Learning Outcomes: Before 6/95 see NV-1710-0086. Upon completion of the course, the student will perform maintenance on machinery controls, governors, and regulators.

Instruction: Methods of instruction include lecture and hands-on exercises. Topics covered include troubleshooting, disassembly, inspection, measurement, repair, reassembly, and testing of machinery controls, governors and regulators, including speed control devices, air pilot diaphragm control devices, pressure control devices, and safety shutdown devices.

Credit Recommendation: In the vocational certificate category, 3 semester hours in machinery controls, governors, and regulators maintenance (11/95); in the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems laboratory (11/95).

NV-1710-0160

Hagan Automatic Boiler Control (ABC) Console Operator

Course Number: A-651-0049.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (93 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Before 12/91 see NV-1710-0078. Upon completion of the course, the student will be able to operate a Hagan automatic boiler control console.

Instruction: Lecture and practical experience cover automatic boiler control console operation and procedures. Topics covered include automatic boiler control theory, typical automatic combustion control system, principles of automatic combustion control, feed water control, feed pump differential pressure control, and feedback recirculation controls and air locks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in a technical elective in manufacturing, engineering, or mechanical technology (11/95).

NV-1710-0161

Marine Gas Turbine Inspector Training and Certification

Course Number: A-652-0503.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to diagnose mechanical problems, provide technical assistance, produce message text format reports, and recommend corrective action for propulsion and auxiliary gas turbines.

Instruction: Lecture, seminars and practical exercises cover the inspection and performance analysis of jet engines.

Credit Recommendation: In the vocational certificate category, 3 semester hours in gas turbine analysis and inspection (12/95).

NV-1710-0162

Gas Turbine Electrical Maintenance DDG-51/AOE-6, Class C

Course Number: A-652-0329.

Location: Service School Command, Great Lakes, IL.

Length: 7 weeks (280 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain gas turbine main propulsion and auxiliary system consoles.

Instruction: Lectures use interactive electronic classroom and practical exercises to cover digital system fundamentals, signal conditioning, and gas turbine control console troubleshooting and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital technology and 2 in control system technology (12/95).

NV-1710-0163

Light Frame Construction

Course Number: A-710-0026.

Location: Construction Training Center, Port Hueneme, CA.

Length: 2 weeks (70 hours).

Exhibit Dates: 10/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use a trailer-mounted saw to construct roof framing systems, including common rafters; hip and valley rafters; hip, valley and cripple jacks; roof trusses; and stair construction.

Instruction: Lectures and extensive practical laboratory experiences cover use of a trailer and mounted saw; layout and roof framing using common rafters; hip and valley rafters; hip, valley and cripple jacks; and roof trusses. Also included is stair construction.

Credit Recommendation: In the vocational certificate category, 2 semester hours in components for roof framing (4/97); in the lower-division baccalaureate/associate degree category, 1 semester hour in roof framing systems. Credit is to be granted in either category, but not in both (4/97).

NV-1710-0164

Roofing

Course Number: A-710-0012.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: 2 weeks (70 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to lay out and apply built-up roofing, modified bitumen roofing, asphalt roll roofing, and composition shingles and estimate roofing materials.

Instruction: Lectures and extensive practical laboratory experiences cover layout estimating and installation of built-up roofs, modified bitumen roofs, asphalt roll roofs, and composition shingles.

Credit Recommendation: In the vocational certificate category, 2 semester hours in roof covering applications (4/97); in the lower-division baccalaureate/associate degree category, 1 semester hour in roofing systems. Credit is to be granted in either category, but not both (4/97).

NV-1710-0165

Forming and Reinforcing

Course Number: A-710-0025.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: 2 weeks (70 hours).

Exhibit Dates: 10/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to design layouts and build concrete forms, fabricate and place reinforcing steel, and understand concrete precasting operations.

Instruction: Lectures with extensive practical laboratory exercises cover design, layout, and building of concrete for,; fabrication and placement of reinforcing steel, and understanding concrete precasting operations.

Credit Recommendation: In the vocational certificate category, 2 semester hours in forming and reinforcement for concrete construction practice (4/97); in the lower-division baccalaureate/associate degree category, 1 semester hour in concrete construction. Credit is to be granted in either category, but not in both (4/97).

NV-1710-0166

Masonry Unit Construction 2

Course Number: A-710-0028.

Location: Construction Training Center, Gulfport, MS.

Length: 2 weeks (70 hours).

Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify masonry terminology, tools, and materials; tuckpointing, cleaning, and waterproofing; estimate masonry materials; perform layout procedures; and lay masonry units.

Instruction: Lectures with extensive practical laboratory experiences cover masonry tools and materials; tuckpointing, cleaning, and waterproofing; estimating masonry materials; layout; and laying masonry units.

Credit Recommendation: In the vocational certificate category, 2 semester hours in masonry construction practices (4/97); in the lower-division baccalaureate/associate degree category, 1 semester hour in masonry construction. Credit is to be granted in either category, but not both (4/97).

NV-1710-0167

Builder, Class A, Air Force

Course Number: A-710-0032.

Location: Construction Training Center, Gulfport, MS.

Length: 10-11 weeks (416 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to read and understand basic drawings and specifications for light-frame construction, heavy timber bridge construction, and pre-engineering building construction and perform, under supervision, masonry construction, light-frame construction, interior and exterior finishing, shingling, wood frame structure preservation, heavy timber bridge construction, and pre-engineering building construction.

Instruction: Lectures, audiovisual instruction, and hands-on applications cover the use of hand tools and portable machinery and include plan reading, concrete construction, masonry construction, light-frame construction, interior finishing, composite shingle construction, heavy timber frame construction, and pre-engineering building erection.

Credit Recommendation: In the vocational certificate category, 2 in applied mathematics (4/97); in the lower-division baccalaureate/associate degree category, 3 in construction materials, 4 in framing and exterior finish, 3 in interior finish, and 1 in technical mathematics. Credit is to be granted in either category, but not in both (4/97).

NV-1710-0169

Salvage/Construction Demolition Diver

Course Number: A-433-0048.

Location: Diving and Salvage Training Center, Panama City, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 8/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use and handle explosives and demolition accessories, design safety precautions used with explosive operations, plan and set charges, perform administrative procedures, use hydraulic and hand tools underwater, and perform underwater cutting using appropriate techniques and observing safety precautions.

Instruction: Lectures, laboratories, field and open water demonstrations (electric and non-electric demolitions), and written and performance tests are methods of instruction.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in underwater cutting (8/97).

NV-1710-0170

Builder, Class A, Army

Course Number: A-710-0033.

Location: Construction Training Center, Gulfport, MS.

Length: 7-8 weeks (288 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to read and understand basic drawings and specifications for light-frame construction, heavy timber bridge construction, and pre-engineering building construction and perform, under supervision, masonry construction, light-frame construction, exterior finishing, shingling, wood frame structure preservation, heavy timber bridge construction, and pre-engineering building construction.

Instruction: Lectures, audiovisual instruction, and hands-on applications cover the use of hand tools and portable machinery and include plan reading, concrete construction, masonry construction, light-frame construction, composite shingle construction, heavy timber frame construction, and pre-engineering building erection.

Credit Recommendation: In the vocational certificate category, 2 in applied mathematics (9/97); in the lower-division baccalaureate/associate degree category, 3 in construction materials, 4 in framing and exterior finish, and 1 in technical mathematics. Credit is to be granted in either category, but not in both (9/97).

NV-1712-0001

Waukesha Diesel Engine

Course Number: J-651-0477; J-651-0473; A-652-0037.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 4 weeks (135 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train enginemen to operate and maintain specific diesel engines, distilling plant, and engineering plant systems.

Instruction: A limited amount of lecture material in the design, construction, and operating theory of a specific diesel engine is complimented by practical laboratory exercises in the disassembly, diagnosis, and assembly of a specific diesel engine. Troubleshooting and adjustment techniques are also taught in a laboratory situation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in a technical elective credit in automotive, diesel, or heavy equipment technology (11/81).

NV-1712-0002

Diesel Engine/Fairbanks-Morse Maintenance Technician

Course Number: A-652-0046.

Location: Fleet Ballistic Submarine Training Center, Charleston, SC; Submarine Training Facility, San Diego, CA; Submarine Training Center, Pearl Harbor, HI; Submarine Training Center, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train enlisted personnel to maintain and repair the Fairbanks-Morse diesel engine.

Instruction: Lectures and practical exercises cover Fairbanks-Morse diesel engine maintenance and repair, including diesel engine principles, component familiarization and maintenance procedures, engine fluid systems, scavenging blower, camshaft drive and bearings, tappet assemblies, fuel injection, engine timing, governor, engine control linkage, snorkel systems, and troubleshooting and corrective maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in automotive technology (6/81).

NV-1712-0012

MINE WARFARE PACKARD DIESEL ENGINEMAN, CLASS C

Course Number: J-651-0475.

Location: Naval Schools, Charleston, SC.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train enlisted personnel who have completed an introductory course in diesel engine fundamentals to a more advanced competency in the diagnosis, troubleshooting, and repair of diesel engines.

Instruction: Lectures, demonstrations, and practical exercises cover diesel engine operation, maintenance, diagnosis, and overhaul, including turbosuperchargers, instruments, and controls; operating and construction data; cooling, lubrication, air intake, exhaust, and fuel systems; engine maintenance and overhaul procedures; and engine timing, troubleshooting, testing, and starting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in automotive or diesel technology, heavy equipment, or a technical elective (11/81).

NV-1712-0021

AVIATION SUPPORT EQUIPMENT DETROIT SERIES 53 DIESEL INTERMEDIATE MAINTENANCE
(Aviation Support Equipment UD-282 and Detroit Series 53 Diesel Engines Intermediate Maintenance)

Course Number: C-602-3213.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To train support equipment technicians in maintenance and repair of diesel engines.

Instruction: Lectures and practical exercises cover the maintenance, repair, and troubleshooting of diesel engines, including system analysis using applicable publications, test equipment, special tools, and safety precautions.

Credit Recommendation: In the vocational certificate category, 2 semester hours in automotive shop (4/85); in the lower-division baccalaureate/associate degree category, 1 semester in diesel engine maintenance (4/85).

NV-1712-0024

1. ENGINEMAN, CLASS A SCHOOL STRAND
2. ENGINEMAN, CLASS A, CLASS A1

Course Number: *Version 1:* A-652-0018. *Version 2:* A-652-0018.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 10-11 weeks (420 hours). *Version 2:* 9 weeks (344 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have a broad based mechanical knowledge and specific training in diesel repair and maintenance. *Version 2:* Upon completion of the course, the student will be able to function as an entry-level diesel engine operator and perform basic maintenance and repair on diesel engines and auxiliary systems.

Instruction: *Version 1:* Classroom instruction and hands-on training covers repair and maintenance of mechanical equipment, including water heaters, conveyors, laundry and kitchen equipment, and steering gear. Half of the course is devoted to diesel engines of all types. *Version 2:* Lectures and practical exercises cover engines, including portable pumps; internal combustion engines; diesel engines; lubrication, cooling, fuel, electrical, and transmission systems; and auxiliary boilers. The course includes air conditioning, refrigeration, fire fighting systems, and valve and pump maintenance.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in basic mechanics (12/95); in the lower-division baccalaureate/associate degree category, 2 semester hours in diesel fundamentals and 1 in industrial safety (12/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in diesel engines and power plant auxiliaries and 2 in diesel engine laboratory (6/88).

NV-1712-0025

1182 PROPULSION SYSTEM TECHNICIAN

Course Number: A-652-0054.

Location: Service School Command, Great Lakes, IL.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–12/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, overhaul, and repair medium-speed, marine diesel engines of various manufacture and operate, maintain, and troubleshoot a Kamewa controllable-pitch propeller.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of variable-pitch ship propellers and associated control equipment including applications of hydraulics and pneumatics and analysis of electrical control circuits and mechanical components.

Credit Recommendation: In the vocational certificate category, 5 semester hours in diesel engine maintenance and 3 in pneumatic/hydraulic control systems maintenance (6/88); in the lower-division baccalaureate/associate degree category, 3 semester hours in diesel engine technology (6/88).

NV-1712-0026

MASTER MARINE DIESEL MECHANIC MAINTENANCE

Course Number: A-652-0305.

Location: Service School Command, Great Lakes, IL.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–2/91.

Learning Outcomes: Upon successful completion of the course, the student will be able to operate, maintain, overhaul and repair medium-speed marine diesel engines.

Instruction: Lectures and practical exercises cover diesel engine construction, operation, maintenance, overhaul, and repair as it applies to a wide variety of medium-speed marine diesel engines. Topics include construction, turbocharging, diesel auxiliary systems, and control systems.

Credit Recommendation: In the vocational certificate category, 5 semester hours in diesel engine maintenance (6/88); in the lower-division baccalaureate/associate degree category, 3 semester hours in diesel engine technology (6/88).

NV-1712-0027

FFG-7 AUXILIARY 16V149TI DIESEL ENGINE MAINTENANCE

Course Number: A-652-0306.

Location: Service School Command, Great Lakes, IL.

Length: 5 weeks (180 hours).

Exhibit Dates: 1/90–2/91.

Learning Outcomes: Upon completion of the course, the student will be able to identify components and explain fundamental operating principles of two-stroke and four-stroke diesel engines; perform designated scheduled maintenance on components and systems of diesel engines in general; and perform designated scheduled maintenance, troubleshooting, and limited corrective maintenance on the DDA 16V149TI diesel engine.

Instruction: Classroom and practical exercises cover diesel engine maintenance, including diesel engine construction and operating principles, shaft alignment principles and practices, diesel engine systems, diesel engine troubleshooting, and timing operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in diesel engine technology and 1 in diesel engine operation and maintenance (6/88).

NV-1712-0028

TRIDENT SUBMARINE DIESEL ENGINE MAINTENANCE

Course Number: A-652-0150.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Norfolk, VA; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT; Submarine Training Facility, San Diego, CA; Submarine Training Facility, Charleston, SC; Submarine Training Facility, Kings Bay, GA.

Length: 2 weeks (79 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform standard preventive maintenance procedures on a medium-speed diesel engine and troubleshoot and repair diesel engine faults.

Instruction: Lecture and laboratory exercises cover the construction, operation, and maintenance of auxiliary diesel engines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in diesel engine technology. Credit listed in this course does not duplicate credit for Trident Diesel Engine Supervisor, A-652-0267 (NV-1712-0029) (2/96).

NV-1712-0029

TRIDENT DIESEL ENGINE SUPERVISOR

Course Number: A-652-0267.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (53 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair diesel engine faults.

Instruction: Lecture and laboratory exercises cover the theory of operation, construction, and maintenance of auxiliary diesel engines. Emphasis is on lubrication and governor systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in diesel engine technology. Credit listed for this course is not duplicated in Trident Submarine Diesel Engine Maintenance, A-652-0150 (NV-1712-0028) (2/89).

NV-1712-0030

TRIDENT SUBMARINE AUXILIARY EQUIPMENT TECHNICIAN LEVEL 3

Course Number: A-652-0142.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (97 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: See individual exhibits for learning outcomes. This is a pipeline course.

Instruction: See exhibits NV-1712-0029 (A-652-0267) and NV-1701-0011 (A-652-0265).

Credit Recommendation: Please refer to the individual exhibits noted above for credit recommendation (2/89).

NV-1712-0031

FAIRBANKS-MORSE 38F 5 1/4 DIESEL MAINTENANCE TECHNICIAN

Course Number: A-652-0236.

Location: Submarine Base, New London, Groton, CT.

Length: 1-2 weeks (65 hours).

Exhibit Dates: 1/90–3/93.

Learning Outcomes: Upon completion of the course, the student will be able to describe diesel operation and maintenance and operate, troubleshoot, and maintain diesel engines.

Instruction: Lectures and laboratories cover diesel operation and maintenance subjects, including construction and assembly of components, fuel injection systems, governors, turbochargers, lubrication, and timing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 in laboratory in diesel engine technology. (May be applied to an automotive technology program.) (10/89).

NV-1712-0032

1. ENGINEMAN, CLASS C, CORE
2. DIESEL ENGINE, CLASS C CORE

Course Number: *Version 1:* A-652-0320. *Version 2:* A-652-0320.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 4 weeks (143 hours).

Exhibit Dates: *Version 1:* 8/94–Present. *Version 2:* 2/91–7/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to identify diesel engine and propulsion systems parts, components, and subsystems; describe their operation and interrelationships; describe the auxiliary systems operation and function; make basic calculations; and measure diesel physical parameters. The student will also be able to supervise diesel plant personnel, perform associated administrative functions, and apply plant safety codes and procedures. *Version 2:* Upon completion of the course, the student will be able to identify diesel engine and propulsion systems parts, components, and subsystems; describe their operation and interrelationships; describe the auxiliary systems operation and function; make basic calculations; and measure diesel physical parameters.

Instruction: *Version 1:* Classroom lectures and demonstrations are used to present the fundamental theories of operation and diesel construction. Topics include diesel safety, cooling systems, instrumentation, fuel systems, diesel construction, diesel cycles, lube oil systems, intake and exhaust systems, and power transmission systems. Classroom lectures are also used to demonstrate plant safety. *Version 2:* Classroom lectures and demonstrations are used to present the fundamental theories of operation and diesel construction. Topics include diesel safety, cooling systems, instrumentation, fuel systems, diesel construction, diesel cycles, lube oil systems, intake and exhaust systems, and power transmission systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in diesel engine fundamentals, 1 in industrial safety, and 1 in power plant administration (12/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in diesel engine fundamentals (6/91).

NV-1712-0033

DIESEL ENGINE, CLASS C MODULE 4

Course Number: A-652-0324.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (152 hours).

Exhibit Dates: 4/91–5/94.

Learning Outcomes: Upon completion of the course, the student will be able to safely operate and maintain diesel engines used for marine propulsion and generator service. Caterpillar D-399 and IFID-36 SSCV-AM Engines only are reviewed during the course.

Instruction: Classroom lectures and demonstrations are performed to introduce extensive laboratory time. Laboratory stresses general description, operational description, maintenance description, and complete disassembly, inspection, reassembly, and operation of each engine.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in diesel engine maintenance and repair laboratory (6/91).

NV-1712-0034

SMALL BOAT ENGINE OVERHAUL

Course Number: K-652-0230.

Location: Amphibious School, Little Creek, Norfolk, VA; Amphibious School, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 2/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and overhaul small diesel engines.

Instruction: Lectures and laboratories cover diesel engine components and systems. Included topics are construction, lubrication systems, fuel systems, hydraulic systems, water systems, electrical systems, injectors, governors, and transmissions. Instruction includes disassembly, inspection, repair, and reassembly of all of the above components and systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in diesel/automotive/marine engines (3/92).

NV-1712-0035

BARGE FERRY ENGINEER O LEVEL MAINTENANCE

Course Number: K-652-0297.

Location: Amphibious School, San Diego, CA.

Length: 2 weeks (121 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the diesel propulsion, powered causeway, electrical, and ventilation systems on a self-propelled barge ferry.

Instruction: Lectures and laboratories cover the topics listed above.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems repair (3/92).

NV-1712-0036

SMALL BOAT ENGINEER

Course Number: K-652-0231.

Location: Mobile training, as required; Amphibious School, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 2/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, in a limited way, a small diesel engine, marine transmission, and outdrive.

Instruction: Lectures and laboratories cover diesel engine, transmission, and outdrive components and systems. Topics include physical and functional description of construction, lubrication systems, electrical systems, and power transmission components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category

gory, 1 semester hour in diesel/automotive/marine engines (3/92).

NV-1712-0037

Diesel Engine/Waste Heat FFG-7

Course Number: A-652-0167.
Location: Service School Command, Great Lakes, IL.
Length: 3 weeks (120 hours).
Exhibit Dates: 1/94–Present.
Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain a shipboard waste heat recovery system and a medium horse power marine diesel engine. Student will be able to describe equipment, basic mechanical heat processes, functional sequences, and abnormal system conditions.
Instruction: Instruction includes lecture, demonstration, mock-ups, and hands-on laboratory training. Examination includes performance, knowledge recall, and troubleshooting analysis. Systems include diesel, waste heat system, diesel auxiliary systems, test equipment, seawater distillation systems, and associated electrical systems.
Credit Recommendation: In the vocational certificate category, 3 semester hours in diesel power plant operation and maintenance (10/93).

NV-1712-0038

Engineman, Class C, Module 1
(Diesel Engine, Class C, Module 1)

Course Number: A-652-0321.
Location: Service School Command, Great Lakes, IL.
Length: 4 weeks (157 hours).
Exhibit Dates: 5/91–Present.
Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot medium-speed diesel engines; interpret technical data; and identify and correct mechanical problems in the EMD and ALCO 251-C engines and auxiliaries.
Instruction: Lectures and practical exercises use actual equipment and mock-ups to teach engine construction, operating theory, problem isolation, troubleshooting, and maintenance and repair techniques for medium-speed diesel engines. All engine systems are covered, including starting, speed control, fuel oil, cooling, and turbocharging.
Credit Recommendation: In the vocational certificate category, 3 semester hours in medium-speed diesel engine troubleshooting, maintenance, and repair (7/95).

NV-1712-0039

Diesel Engine, Class C, Module 2

Course Number: A-652-0322.
Location: Service School Command, Great Lakes, IL.
Length: 4 weeks (145 hours).
Exhibit Dates: 4/91–12/93.
Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot medium-speed diesel engines; interpret technical data; and identify and correct mechanical problems in the GM series V71 and DDA 16V 14911 engines and auxiliaries.
Instruction: Lectures and practical exercises use actual equipment and mock-ups to teach engine construction, operating theory, problem isolation, troubleshooting, and maintenance and repair techniques for medium-speed diesel engines. All engine systems are covered, including starting, speed control, fuel oil, cooling, and turbocharging.
Credit Recommendation: In the vocational certificate category, 3 semester hours in medium-speed diesel engine troubleshooting, maintenance, and repair (10/93).

NV-1712-0040

Engineman, Class C, Module 3
(Diesel Engine, Class C, Module 3)

Course Number: A-652-0323.
Location: Service School Command, Great Lakes, IL.
Length: 4 weeks (145-160 hours).
Exhibit Dates: 4/91–Present.
Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot medium-speed diesel engines; interpret technical data; and identify and correct mechanical problems in the Colt Pielstick PC2.5C and Fairbanks-Morse 38D 8 1/8 engines and auxiliaries.
Instruction: Lectures and practical exercises use actual equipment and mock-ups to teach engine construction, operating theory, problem isolation, troubleshooting, and maintenance and repair techniques for medium-speed diesel engines. All engine systems are covered, including starting, speed control, fuel oil, cooling, and turbocharging.
Credit Recommendation: In the vocational certificate category, 3 semester hours in medium-speed diesel engine troubleshooting, maintenance, and repair (7/95).

NV-1712-0041

Diesel Engine Inspector Training and Certification

Course Number: A-652-0311.
Location: Service School Command, Great Lakes, IL.
Length: 5 weeks (193 hours).
Exhibit Dates: 1/92–Present.
Learning Outcomes: Upon completion of the course, the student will be able to inspect diesel engines, compare inspection results with specifications, analyze the data, make repair recommendations, and report results.
Instruction: Instruction includes lectures, demonstrations, laboratory exercises, analysis exercises, and case studies with group discussions. Topics include diesel and auxiliary equipment components, theory of operation, maintenance, specifications and standards, safety, and inspection procedures. Course includes communication skills at the report-writing level. Engine inspection skills are emphasized. Examinations include written, practical, and oral components.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in advanced diesel engine inspection or repair diagnosis and 1 in diesel engine laboratory (10/93).

NV-1712-0042

MA2, MA3 Generator Test Stand Maintainer

Course Number: C-602-3820.
Location: Air Maintenance Training Group, Cherry Point, NC.
Length: 4 weeks (160 hours).
Exhibit Dates: 2/92–Present.
Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair the MA2 and MA3 generator test stand at the intermediate maintenance level.
Instruction: Course includes publications, safety, description, theory of operation, construction, limitations, and maintenance of MA2 and MA3 generator test stand. Methodology includes classroom lectures and practical exercises.
Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1712-0043

MCM Class Propulsion Operator and Maintenance

Course Number: A-652-0340.
Location: Service School Command, Great Lakes, IL.
Length: 5 weeks (200 hours).
Exhibit Dates: 5/94–Present.
Learning Outcomes: Upon completion of the course, the student will have in-depth knowledge of MCM propulsion equipment including Isotta-Franchini diesel and gas turbine generation equipment.
Instruction: Computer enhanced lecture techniques are used as well as laboratory.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in diesel engines and auxiliaries and 1 in gas turbines and generators (12/95).

NV-1712-0044

ARS-50 Propulsion Technician

Course Number: A-652-0339.
Location: Service School Command, Great Lakes, IL.
Length: 3 weeks (120 hours).
Exhibit Dates: 6/94–Present.
Learning Outcomes: Upon completion of the course, the student will have complete and in-depth knowledge of ARS-50 propulsion equipment including the Caterpillar diesel.
Instruction: Classroom instruction and laboratory are used.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in diesel engines and auxiliaries (12/95).

NV-1712-0045

Small Boat Engine Overhaul Technician

Course Number: K-652-0232.
Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.
Length: 4 weeks (160 hours).
Exhibit Dates: 6/95–Present.
Learning Outcomes: Upon completion of the course, the student will have a broad based mechanical knowledge in small high-speed diesel engine repair, operation, and maintenance. And the Cummings B-series with MDS outdrive.
Instruction: Lectures and practical exercises cover high-speed diesel engine systems and theory concentrating on overhaul, maintenance, and troubleshooting of GM 6-711 Cummings diesel engines and associated auxiliary and propulsion drive system. Topics include

construction, troubleshooting, tune-up, turbocharging, diesel auxiliary systems, electrical systems, and control systems. The second platform studied is the GM 6-71 series with Allison transmission.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in high-speed diesel engine construction, maintenance, and operation (10/97).

NV-1713-0003

Advanced Engineering Aid

Course Number: *Version 1:* A-412-0015. *Version 2:* A-412-0015.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 13 weeks (513 hours). *Version 2:* 12 weeks (408 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to solve problems in applied algebra, trigonometry, geometry, and metric systems; understand the basic concepts of statics and strength of materials; design simple members in wood, steel, and concrete; understand the basic concepts for designing HVAC, plumbing, lighting, and electrical systems; perform construction surveying; test soils and concrete; and understand construction planning and estimating. *Version 2:* Upon completion of the course, the student will be able to perform advanced surveying and drafting, plan and estimate, and design and conduct materials testing.

Instruction: *Version 1:* Lectures, demonstrations, and practical exercises cover applied mathematics; construction supervision and management; construction design (wood, steel, and concrete, HVAC, plumbing, electrical); construction surveying, planning, and estimating; and soil mechanics. *Version 2:* Lectures and advanced practical exercises cover applied mathematics, engineering supervision and management, construction design and surveying, planning and estimating, and quality control.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in technical mathematics, 3 in applied structural design (wood, steel, concrete), 1 in applied mechanical-electrical building equipment design, 2 in planning and estimating, 2 in construction surveying, and 3 in applied soil mechanics (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 8 semester hours in construction surveying and civil drafting and 2 in planning and estimating (6/91).

NV-1714-0003

Electrician's Mate Maintenance, Class C1
(Electrician's Mate Maintenance, Class P)

Course Number: A-651-0025.

Location: Development and Training Center, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 3 weeks (90 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide electrician-supervisors with practical training in maintenance and repair procedures on ship's electrical installations.

Instruction: Lectures and laboratory exercises cover electrical machine operation and safety and maintenance, including electric motor theory, motor controllers, alternators, regulators (including solid state regulators), basic magnetism, magnetic amplifiers, degaussing, cathodic equipment, lead and batteries, starter motors, battery charge systems, and their application to shipboard systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical machine systems and controls (5/82).

NV-1714-0004

Missile Launcher System Mk 24 Maintenance
Electrical

Course Number: A-121-0267.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 2 weeks (96 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide missile technicians with skills needed to maintain and repair electrical portions of the Mk 24 missile launcher system.

Instruction: Lectures and laboratory exercises cover the electrical and electromechanical components of the Mk 24 missile launcher system, including maintenance and repair philosophy and techniques, safety procedures, flow diagrams, circuit breakers, alignment tools, and calibration.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electrical and electromechanical system maintenance (3/81).

NV-1714-0005

Electrical Distribution and Control
Equipment Combined Maintenance

Course Number: A-662-0025.

Location: Submarine School, New London, Groton, CT.

Length: 2 weeks (60-72 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train students to inspect, maintain, adjust, and repair electrical distribution and control equipment installed in nuclear submarines.

Instruction: Lectures and exercises cover electrical switchboards, circuit breakers and circuit breaker control circuitry, AC controllers, coolant pump controllers, and DC starters.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electrical distribution and maintenance (6/81).

NV-1714-0016

Electric Motor Rewind, Class C

Course Number: A-662-0021.

Location: Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (150-160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train enlisted personnel in the techniques and procedures used in winding AC and DC motors.

Instruction: Lectures and practical exercises cover the recording of data; construction of wiring diagrams; and the rewinding, assembling, and testing of DC motors, single-phase AC motors, and three-phase AC motors.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electric motor repair laboratory and 1 in electric motor repair (5/82).

NV-1714-0018

Variable Speed Controllers Combined
Maintenance

Course Number: A-662-0040.

Location: Submarine School, Pearl Harbor, HI; Submarine School, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 1-2 weeks (33-80 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To train students in the theory, operation, and maintenance of four types of variable speed AC motor controllers.

Instruction: Lectures and practical exercises cover four types of variable-speed AC motor controllers, including functional characteristics, modes of operation, and controls. Corrective maintenance using schematics, signal flow, and operating sequence is also covered. The student learns to interpret malfunctions; isolate faults to the component level; and repair, align, adjust, and calibrate the controllers. The course includes a basic semiconductor review and in-depth theory, operation, and the corrective and preventive maintenance of variable-voltage/variable-frequency controllers to the component level. Equipment studied includes the McCarr SIX-SCR variable-voltage controller, the GE variable-voltage/frequency controller, the GE variable-frequency controller, and the Cutler Hammer variable-voltage/frequency controller.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical machinery controllers (11/85).

NV-1714-0019

Aviation Support Equipment Technician
Electrical

Course Number: C-000-3263.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide non—electrical maintenance personnel with electrical and electronic familiarization, and electrical safety procedures and practices.

Instruction: Lectures and practical exercises cover basic electricity, including DC circuits, magnetism, transformers, generators, transistors, electrical safety, soldering, and troubleshooting principles and procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical fundamentals for non—electrical engineering students (3/82).

NV-1714-0023

FFG-7 Engineering System Maintenance
Management, Electrical, Class C1

Course Number: A-652-0154.

Location: Service School Command, Great Lakes, IL.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train mechanical technicians in the theory of operation and maintenance management of shipboard electrical control systems.

Instruction: Group lectures and individual practice cover the theory of operation, capabilities, limitations, and management of shipboard electrical control systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/82).

NV-1714-0024

Gas Turbine Systems Technician Electrical, Class A1

Course Number: A-652-0178.

Location: Service School Command, Great Lakes, IL.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train technicians to maintain gas turbine electrical systems.

Instruction: Lectures, demonstrations, and exercises cover DVMs, oscilloscope, lead acid storage batteries, blueprint reading, transformers, motors, three-phase AC motor controllers, AC generators, magnetic amplifiers, number systems, BCD code, logic symbols, Boolean algebra, and digital circuits.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electric generator plant maintenance (1/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital logic (1/82).

NV-1714-0027

Minesweeping Electrician's Mate

Course Number: J-647-0019.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 8 weeks (280 hours).

Exhibit Dates: 1/90–3/93.

Objectives: To train foreign and US naval personnel to operate and maintain minesweeping equipment found onboard minesweeping vessels.

Instruction: Lectures and laboratory instruction cover installing, operating, maintaining, and repairing degaussing and and minesweeping ships and equipment using the principles of magnetism and electricity. Laboratory includes the use of equipment such as meters, generators, motor-generator sets, vacuum tube voltmeters, oscilloscopes, magnetometers, signal amplifiers, and fault logic amplifiers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical theory (3/83).

NV-1714-0028

Mineman, Class A

Course Number: J-647-0016.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 12 weeks (520 hours).

Exhibit Dates: 1/90–3/93.

Objectives: To provide designated personnel with the necessary skills and related knowledge to perform final preparation, upgrade maintenance, and safety inspection of mine warfare weapons.

Instruction: Lectures and laboratory instruction cover identifying; handling; maintaining; and repairing mine equipment, using specific equipment, manuals, and directives.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/83).

NV-1714-0029

FFG-7/DD-963 60/40 Hertz Static Frequency Converter Maintenance

Course Number: A-652-0243.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–10/93.

Objectives: After 9/93 see NV-1714-0086. To train personnel in maintenance and troubleshooting procedures for a 60 to 400 Hertz converter.

Instruction: Lectures and practical exercises cover the theory of operation, component function, and maintenance and troubleshooting procedures for a converter including rectifier circuits and digital control circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical control systems troubleshooting laboratory (10/83).

NV-1714-0030

FFG-7 Class Ship Auxiliary Electrical Subsystem Technician

Course Number: A-662-0120.

Location: Service School Command, Great Lakes, IL.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–4/90.

Objectives: To train personnel to operate and perform corrective maintenance on electrical auxiliary subsystem components installed in FFG-7 class ships.

Instruction: This is a pipeline course consisting of a number of courses; see NV-1704-0262.

Credit Recommendation: This was a pipeline course; see above noted exhibit (11/83).

NV-1714-0031

FFG-7 Auxiliary Electrical Systems
(FFG-7 Auxiliary Electrical Systems Maintenance)

Course Number: A-652-0215.

Location: Service School Command, Great Lakes, IL.

Length: 2-5 weeks (80-200 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train electricians in the maintenance of shipboard auxiliary electrical systems.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of auxiliary electrical systems, including a diesel generator static exciter, electric distribution switchboards, and 400 Hertz line voltage regulators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical controls maintenance (10/93).

NV-1714-0032

AN/USM-403 Electrical System Equipment Test Set Intermediate Maintenance

Course Number: C-198-3678.

Location: Air Station, North Island, San Diego, CA.

Length: 11 weeks (440 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide electronic maintenance personnel with training in the maintenance and repair of an electrical equipment test set.

Learning Outcomes: Upon completion of this course, the student will be able to perform computer functional checkout; operator interface circuit card analysis; diagnosis of program system procedures; circuit board analysis of various circuits, including use of AC/DC power supply, function generator, sampling measurement system, and frequency standard; and test station troubleshooting at the board or component level.

Credit Recommendation: In the vocational certificate category, 6 semester hours in computer maintenance and repair laboratory (4/85); in the lower-division baccalaureate/associate degree category, 2 semester hours in computer maintenance laboratory and 1 semester hour in computer systems applications (4/85).

NV-1714-0033

S-3A Electrical Systems Organizational Maintenance

Course Number: C-602-3676.

Location: Air Station, North Island, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To familiarize enlisted personnel with aircraft electrical and instrument systems.

Learning Outcomes: Upon completion of the course, the student will have a basic understanding of S-3A aircraft systems, including electrical power generation and distribution systems, electronic control systems, electromechanically operated systems, and flight and navigation instrument systems and be able to troubleshoot using limited test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft electrical systems (4/85).

NV-1714-0034

S-3A Electrical System Intermediate Maintenance

Course Number: C-602-3680.

Location: Air Station, North Island, San Diego, CA.

Length: 3 weeks (112 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train personnel in the maintenance and repair of an automatic flight control system to the component level.

Learning Outcomes: Upon completion of the course, the student will maintain and repair pressure temperature system, automatic altitude encoders and test sets, pitch trim activators, angle of attack systems, liquid quantity gauging systems, antiskid wheel speed transducer, control logic assembly, and an automatic flight control system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in aviation maintenance systems (4/85).

NV-1714-0035

SH-2F Electrical Component Intermediate Maintenance

Course Number: C-602-4386.

Location: Air Station, North Island, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation technicians in the principles of operation, repair, and maintenance of the aircraft's electrical system.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain to the component level search and landing lights, fuel control activators, blade-tracking activator controllers, and fuel quantity bridge amplifiers on a military helicopter.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electromechanical laboratory (4/85).

NV-1714-0036

SH-2F Electrical System Organizational Maintenance

Course Number: C-602-3395.

Location: Air Station, North Island, San Diego, CA; Air Station, Norfolk, VA.

Length: 2-3 weeks (77 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train aviation technicians to analyze, troubleshoot, repair, and maintain the electrical systems of the SH-2F helicopter.

Learning Outcomes: Upon completion of the course, the student will be able to locate and troubleshoot components of the electrical power supply system, the lighting system, the landing gear electrical system, the cockpit blade-tracking system, the environmental control system, the fuel transfer system, flight and nonflight instruments, and throttle and RPM control systems using maintenance publications, training devices, test equipment, and tools.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/91).

NV-1714-0037

SH-60B Electrical System Organizational Maintenance

Course Number: C-602-4406.

Location: Air Station, North Island, San Diego, CA; Air Station, Mayport, FL.

Length: 4 weeks (174 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation electricians in the theory of operation, troubleshooting, repair, and maintenance of the electrical systems of a helicopter.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, repair, and maintain components of the SH-60B helicopter, including the AC/DC power system; caution advisory system; hydraulic power system; engine electrical system; and the fuel, fire protection, power train, blade/pylon fold, de-ice/anti-ice, interior/exterior lighting, and landing gear systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in aircraft systems maintenance laboratory and 1 in electromechanical laboratory (4/85); in the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft systems maintenance (4/85).

NV-1714-0038

MMG-1A Mobile Electric Power Plant Intermediate Maintenance

Course Number: C-602-3237.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation electrical technicians to repair and maintain a mobile electrical power plant.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain elements of a mobile electric power plant, including the AC/DC control circuits, AC/DC voltage regulation, frequency regulation, and protection circuits to the component level.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electric power laboratory (4/85).

NV-1714-0039

FFG-7 Electrical Plant Control Console Operator Electrical Maintenance

Course Number: A-652-0249.

Location: Training Center, Great Lakes, IL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To qualify personnel for electric power plant control panel operation.

Instruction: Lectures and practical exercises cover engine room and electric power plant operations. The student learns about systems operation and intersystem influences. The student learns operating procedures and operates an electric power plant simulator. General instruction covers fuel oil quality assurance and heat stress physiology and prevention programs.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electric power plant operation laboratory and 1 in occupational safety (1/86).

NV-1714-0040

FFG-7 Electrical Plant Control Console Operator Mechanical Maintenance

Course Number: A-652-0251.

Location: Training Center, Great Lakes, IL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To qualify personnel for electric power plant control panel operation.

Instruction: Lecture and practical exercises cover engine room and electric power plant operations. The student learns about systems operation and intersystem influences and operating procedures and operates an electric power plant simulator. General instruction cover fuel oil quality assurance and heat stress physiology and prevention programs.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electric power plant operation laboratory and 1 in occupational safety (1/86).

NV-1714-0041

FFG-7 Electrical Systems Maintenance

Course Number: A-652-0253.

Location: Training Center, Great Lakes, IL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train personnel in the operation and maintenance of data acquisition equipment for the FFG-7 gas turbine power plant.

Instruction: Lectures and laboratory exercises cover operation, calibration, and maintenance of analog and digital circuits used to monitor and control gas turbine power plants.

Credit Recommendation: In the vocational certificate category, 3 semester hours in operation and maintenance of electronic monitoring and control equipment (1/86).

NV-1714-0042

CV Catapult Electrician

Course Number: *Version 1:* C-604-2013. *Version 2:* C-604-2013.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: *Version 1:* 4 weeks (156 hours). *Version 2:* 4 weeks (156 hours).

Exhibit Dates: *Version 1:* 5/92–Present. *Version 2:* 1/90–4/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain and repair the electrical portion of catapult and arresting gear systems and associated equipment. *Version 2:* Upon completion of the course, the student will be able to maintain and repair catapult electrical systems and associated equipment.

Instruction: *Version 1:* Lectures and practical exercises in control sequence; safety in hazardous conditions and environments; operation; maintenance; and repair of electrical systems and related components, including engine system, launching recovery systems, and tension systems. *Version 2:* Lectures and practical exercises cover control sequence; safety in hazardous conditions and environments; operation; maintenance; and repair of electrical systems and related components, including engine system, launching recovery systems, and tension systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial safety and 2 in basic electrical circuits (1/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical system maintenance and 2 in electrical system troubleshooting and schematic interpretation (6/87).

NV-1714-0043

FFG-7 Class Ship Auxiliary Electrical Subsystem

Course Number: A-652-0172.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot common malfunctions in unidynamic pallet elevator control systems, incinerator control systems, and air conditioning fan coil unit control systems.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of incinerator, air compressor, pallet elevator, cooling water, propulsion, air conditioning, and oil and water separator electrical control systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electrical control systems maintenance (10/93).

NV-1714-0044

ELECTRICIAN'S MATE, CLASS A

Course Number: *Version 1:* A-662-0016. *Version 2:* A-662-0016.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 21 weeks (840 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform routine preventive and corrective maintenance on specific shipboard electrical systems. *Version 2:* Upon completion of the course, the student will be able to apply fundamentals of basic electricity and electronics, solid state devices, digital logic, switch gear, single and multiphase motors, motor starter and controller circuits, AC/DC generators, soldering techniques, and first aid. The student will be able to interpret logic and schematic diagrams and use electronic test equipment in identifying and correcting problems related to shipboard electrical machinery and galley equipment. The student will be able to plan and conduct a preventive maintenance program.

Instruction: *Version 1:* Lectures and practical exercises cover shipboard electrical safety and maintenance on lighting systems, small craft electrical systems, galley equipment, cathodic protection systems, degaussing systems, and motor operated valves. *Version 2:* Lectures and practical laboratories cover magnetism, inductive and capacitive circuits, power factor, phase angles, motors and generators, DC circuits, voltage dividers, power calculations, Kirchhoff's law, AC and DC generators, single and multiphase motors, motor control circuits, solid state theory, digital logic theory, and maintenance and material management.

Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in electrical maintenance (12/95). *Version 2:* In the vocational certificate category, 3 semester hours in solid state electronics and 2 in technical mathematics (6/88); in the lower-division baccalaureate/associate degree category, 4 semester hours in DC circuits; 4 in AC circuits; 3 in AC/DC motors, generators, and controllers (6/88).

NV-1714-0045

SD/P ELEVATOR SYSTEM MAINTENANCE
TECHNICIAN

Course Number: A-690-0079.

Location: Service School Command, Great Lakes, IL.

Length: 1 week (40 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to interpret control system drawings for FFG-7 pallet elevators, troubleshoot common malfunctions of control system, and perform preventive and corrective maintenance on pallet elevator controls.

Instruction: Classroom and practical exercises cover the nomenclature, physical construction, automatic electrical control system, operation, maintenance, and repair of a pallet elevator.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electrical control systems maintenance (6/88).

NV-1714-0046

500 KW 60 HERTZ MOTOR GENERATOR SET
ELECTRICAL MAINTENANCE

Course Number: A-662-0125.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (48 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform electrical, preventive maintenance procedures with supervision on ship's service motor generator set.

Instruction: Lectures and laboratory exercises cover construction, maintenance, and theory of operation of DC/AC motor generator sets. Emphasis is on controllers and electrical troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical technology laboratory (2/89).

NV-1714-0047

500 KW 60 HERTZ MOTOR GENERATOR SET
MECHANICAL MAINTENANCE

Course Number: A-662-0102.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform mechanical, preventive and corrective maintenance with supervision on ship's service motor generator set.

Instruction: Lecture and laboratory exercises cover construction, maintenance, and theory of operation of DC/AC motor generator set. Emphasis is on mechanical features and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical technology laboratory (5/97).

NV-1714-0048

LAMPS MK 3 HORIZON REFERENCE SET
MAINTENANCE

Course Number: K-652-2203.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (62-64 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform electrical maintenance, troubleshoot, and repair the horizontal reference system (a subsystem of a helicopter shipboard landing system) and its components.

Instruction: Lectures and practical exercises cover the subject matter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical control systems (6/94).

NV-1714-0049

1. 400 HERTZ MOTOR GENERATOR ELECTRICAL SYSTEM MAINTENANCE, CLASS C1
2. 400 HERTZ MAINTENANCE

Course Number: *Version 1:* A-662-0023; J-662-0023. *Version 2:* J-662-0023.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 5 weeks (200 hours). *Version 2:* 5-6 weeks (232 hours).

Exhibit Dates: *Version 1:* 6/91–Present. *Version 2:* 1/90–5/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to troubleshoot, repair, and maintain 400 Hz motor generator systems while observing proper safety precautions. *Version 2:* Upon completion of the course, the student will be able to troubleshoot and maintain 400 Hz motor generators and voltage/frequency regulators under shipboard conditions.

Instruction: *Version 1:* Instruction includes lectures and practical exercises. Content covers power supplies, transistor amplifiers, thyristors, magnetic amplifiers, logic circuits, voltage/frequency regulators, and corrective maintenance of motor-generator systems. *Version 2:* Instructional methods include lectures and supporting laboratories in analyzing, locating, and repairing faults in 400 Hz voltage and frequency regulators.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in industrial electronics and 2 in electrical motor controls (11/95). *Version 2:* In the vocational certificate category, 3 semester hours in industrial electricity (3/89).

NV-1714-0050

ELECTRICAL CONTROL DEVICES

Course Number: J-662-0044.

Location: Fleet Training Center, Norfolk, VA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain AC relay motor controllers, small craft electrical systems, and charging systems.

Instruction: Lectures and laboratory exercises demonstrate operational theory, troubleshooting techniques, and safety practices with relay-operated controllers.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical control systems troubleshooting and maintenance (3/89).

NV-1714-0051

AVIATION ELECTRICIAN'S MATE, CLASS A1

Course Number: C-602-2012.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 21-22 weeks (869-880 hours).

Exhibit Dates: 1/90–5/96.

Learning Outcomes: Upon completion of the course, the student will be able to maintain aircraft electrical, electronic, and engine instrument systems.

Instruction: Lectures and practical exercises cover DC and AC circuits, vacuum tubes, rectifiers, filters, amplifiers, basic test instruments, electrical indicating systems, fuel quality systems, compasses, automatic pilots, instrument checks, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits, 4 in aircraft electrical systems, 3 in aircraft electronic systems, and 2 in aircraft instrumentation systems (8/92).

NV-1714-0052

Aviation Electrician's Mate Intermediate, Class C7

Course Number: C-602-2014.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 26-27 weeks (1049 hours).

Exhibit Dates: 1/90–4/91.

Learning Outcomes: Upon completion of the course, the student will be able to use standard and specialized test equipment to perform detailed preventive and corrective maintenance on electrical and electronic circuitry on common avionics weapons systems.

Instruction: Lectures and practical exercises include technical mathematics, technical physics, AC circuit analysis, solid state electronics, operational amplifiers, analog and digital computers, DC theory, and avionics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in technical mathematics, 2 in physics, 4 in solid state electronics, 5 in AC circuits, 4 in introduction to computers, 1 in introduction to avionics, and 3 in operational amplifiers (9/89).

NV-1714-0053

Submarine Main Power Generating Equipment

Course Number: A-662-0137.

Location: Guided Missiles School Detachment, Dam Neck, Virginia Beach, VA; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe magnetic amplifiers and AC and DC power generation, regulation, and control and will be able to repair, troubleshoot, and maintain magnetic amplifiers and controllers.

Instruction: Lectures, demonstrations, and laboratory exercises cover electric power generation, regulation, and control.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in electric power generation and regulation (10/89).

NV-1714-0054

Submarine Electrical Control and Distribution Equipment Combined Maintenance

Course Number: A-662-0136.

Location: Guided Missiles School Detachment, Dam Neck, Virginia Beach, VA; Submarine Training Center, San Diego, CA; Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 2 weeks (77 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe electrical control and distribution equipment and operate and maintain circuit protection and motor control systems.

Instruction: Lectures and laboratory instruction cover electrical control and distribution equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electric power systems control (10/89).

NV-1714-0055

Construction Electrician, Class A

Course Number: *Version 1:* A-721-0018. *Version 2:* A-712-0018.

Location: *Version 1:* Construction Training Center Detachment, Sheppard AFB, TX. *Version 2:* Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: *Version 1:* 14 weeks (568 hours). *Version 2:* 13 weeks (449 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to install, troubleshoot, and maintain interior wiring systems, overhead and underground systems, AC power plant generators, field telephones and lighting, and three-phase and single phase motors. *Version 2:* Upon completion of the course, the student will be able to install and maintain interior wiring systems, overhead and underground power distribution systems, AC power plant generators, field telephones, and switchboards.

Instruction: *Version 1:* Lectures and laboratory experience covers electrical theory; AC circuits; DC generators, motors, and controllers; power distribution systems; communications systems; interior wiring; and blueprint reading. *Version 2:* Lectures and laboratory experience cover electrical theory; AC circuits; DC generators, motors and controllers; power distribution systems; communications systems; interior wiring; blueprint reading; and microcomputer fundamentals.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 DC circuits, 3 in electronic power distribution systems, 3 in residential wiring, 2 in AC circuits, and 2 in electric motor control (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits, 1 in technical mathematics, 2 in AC circuits, 3 in electrical power distribution systems, and 3 in residential wiring (3/91).

NV-1714-0058

1. Advanced Construction Electrician
2. Construction Electrician, Class C1 Advanced

Course Number: *Version 1:* A-721-0019. *Version 2:* A-721-0019.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 13 weeks (521 hours). *Version 2:* 13 weeks (614 hours).

Exhibit Dates: *Version 1:* 6/92–Present. *Version 2:* 1/90–5/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to install and maintain street and airfield lighting systems, electrical motors, and generators, power plants, field and office communications and alarm systems, and interior wiring systems and plan and estimate electrical installations. *Version 2:* Upon completion of the course, the student will be able to install and maintain street and airfield lighting systems, electrical motors and generators, power plants, field and office communications systems, and interior wiring systems.

Instruction: *Version 1:* Lectures and laboratory experience cover technical mathematics, AC and DC circuits, electronic circuits, communications systems, motors and controllers, power plants, power distribution, interior wiring, and computerized estimating and scheduling. *Version 2:* Lectures and laboratory experience cover technical mathematics, AC and DC circuits, electronic circuits, communications systems, motors and controllers, power plants, power distribution, interior wiring, and computerized estimating and scheduling.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits, 2 in AC circuits, 3 in basic electronics, 3 in electrical motor controls, and 3 in electrical construction estimating (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits, 2 in AC circuits, 3 in basic electronics laboratory, 3 in electric motors and controllers, and 3 in electrical construction estimating (3/91).

NV-1714-0059

Construction Electrician Power and Communications Cable Splicing

Course Number: *Version 1:* A-721-0023. *Version 2:* A-721-0023.

Location: Construction Training Center, Gulfport, MS.

Length: *Version 1:* 9 weeks (360 hours). *Version 2:* 9 weeks (360 hours).

Exhibit Dates: *Version 1:* 7/96–Present. *Version 2:* 1/90–6/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to splice power and communications cables; splice single and multiconductors for both aerial and underground cable systems; and set up and operate test equipment to locate, identify, and repair cable faults. *Version 2:* Upon completion of the course, the student will be able to splice power and telephone cables using lead, plastic, and rubber sheaths; splice single and multiconductors for both aerial and underground cable systems; and set up and operate test equipment to locate, identify, and repair cable faults.

Instruction: *Version 1:* Lectures and practical exercises cover location, identification, and repair of aerial and underground power and communications cable systems. Course includes splicing and termination of telephone, fiber optic, and power cable systems. *Version 2:* Lectures and practical exercises cover location, identification, and repair of aerial and underground power and telephone cable systems. Course includes cable splicing exercises using various types of sheathing.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree

category, 6 semester hours electrical power and communications cable maintenance (4/97). *Version 2:* In the vocational certificate category, 3 semester hours in electrical cable troubleshooting and 3 in power and telephone cable repair (3/91).

NV-1714-0060

SH-60F/HH-60H Armament and Related
Systems Consolidated Maintenance

Course Number: E-646-0841; D-646-0841; C-646-0841.

Location: Air Training Center, Jacksonville, FL; Helicopter Antisubmarine Squadron 10, North Island, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, test, troubleshoot, and repair electrical systems malfunctions of a helicopter armament system.

Instruction: Lectures and job training cover the armament system using composite trainer and flyable aircraft.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical systems troubleshooting (10/93).

NV-1714-0061

P-3C Connector and Wire Repair
Organizational Maintenance

Course Number: C-602-3573.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair connector assemblies using time domain reflectometry.

Instruction: Lectures, practical exercises, and examinations cover wire and cable identification, connectors, wire repair tools, wire and cable testing and maintenance, and soldering techniques.

Credit Recommendation: In the vocational certificate category, 2 semester hours in manufacture, troubleshooting, and repair of electrical wire harness assemblies (7/92).

NV-1714-0062

1. Interior Communications Electrician, Class A
2. Interior Communications Electrician, Class A1

Course Number: *Version 1:* A-632-0105. *Version 2:* A-623-0105.

Location: *Version 1:* Service School Command, San Diego, CA; Service School Command, Great Lakes, IL. *Version 2:* Service School Command, San Diego, CA.

Length: *Version 1:* 5-6 weeks (208 hours). *Version 2:* 18-19 weeks (600 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 8/91–5/95.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, students will be able to operate and maintain, at the organizational level, interior communications systems, including power distribution, telephone, intercom, alarm, safety and warning, and ship control and navigation.

Instruction: *Version 1:* This is a pipeline course; see individual exhibits for information. *Version 2:* Course covers in detail DC circuits; AC circuits; semiconductor devices; amplifiers; DC power supplies; electromechanical devices; basic motors and generators; synchro and servo fundamentals; wind indicating equipment; digital fundamentals; application of digital circuits; equipment tag-out system; electrical blueprint reading; basic soldering; and ship's interior communication equipment installation, operation, maintenance, and troubleshooting.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits, 2 in AC circuits, 3 in solid state electronics, 2 in digital principles, and 1 in motor controls (10/92).

NV-1714-0063

Job Oriented Basic Skills, Strand 6,
Electrical, Class AP

Course Number: A-100-0067.

Location: Service School Command, San Diego, CA.

Length: 8 weeks (229 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will recognize the meaning of basic series, parallel and series, and parallel resistive circuits, determine content of written passages,-develop adequate listening skills, and use basic mathematics in problem solving.

Instruction: Instruction is lecture-based with practice exercises. Content includes fundamentals of mathematics, reading comprehension, listening comprehension, and basic DC electrical circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in communication skills, 2 in basic electricity, and 2 in fundamentals of mathematics (10/92).

NV-1714-0065

A-6/EA Electrical Connector/Wire Bundle
Repair
(A-6/EA-6 Electrical/Wire Bundle Repair)

Course Number: C-602-3943.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 1-3 weeks (64-104 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify wire types and installation methods, repair wire and terminal ends, troubleshoot defective wire and terminals and make necessary repairs, and solder and crimp regular and special connections.

Instruction: Instruction consists of lecture and laboratory activities. Students use test equipment to analyze wire and connector faults. Students apply skills in soldering, crimping, special connector installation, and wire splicing.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic cable assembly and maintenance (10/94); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical system maintenance as applied to airframe and power plant instruction (10/94).

NV-1714-0067

F-14 Aircraft Electrical Connector/Wire
Repair Organizational Maintenance

Course Number: C-602-3903.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 1-2 weeks (70 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair complex wiring systems and associated connectors, terminals, and splices using standard soldering and crimping techniques and apply quality assurance standards to ensure compliance with military requirements.

Instruction: Methods include lectures and demonstrations covering wire basics, wire types, soldering, and crimp connectors. Course also includes practical application of soldering, crimping, splicing, and heat shrink treatment applied to common components found in aircraft wiring systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic soldering techniques/electronic circuit fabrication (12/92).

NV-1714-0068

F/A-18 Electrical Instruments Consolidated
Organizational Maintenance

Course Number: C-602-9976.

Location: Air Maintenance Training Group, Lemoore, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 5/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under close supervision, organizational maintenance in the squadron working environment on electrical and instrument systems of the F/A-18 aircraft.

Instruction: Lectures and practical exercises cover electronic fundamentals, aircraft power and lighting systems, airframe systems, power plant and related systems, fuel subsystems, computer and inertial navigation systems, flight control subsystems, escape system, and environmental control subsystems of the F/A-18 aircraft.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1714-0069

F/A-18 Electrical Systems WRA Repair
Intermediate Maintenance

Course Number: C-602-3869.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 2 weeks (77 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to isolate faults and remove and repair specific replaceable assemblies of the F/A-18 electrical system, under close supervision.

Instruction: Lectures, demonstrations and practical exercises cover troubleshooting, removing, and replacing aircraft electrical system components.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1714-0070

FFG-7 Auxiliary Electrical System
Technician

Course Number: A-662-0121.

Location: Service School Command, Great Lakes, IL.

Length: 14-16 weeks (560-640 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and repair electrical systems, including diesel generators, fin stabilizers, 60-400 Hertz converter, degaussing equipment, and auxiliary equipment.

Instruction: This pipeline course consists of A-652-0172, Auxiliary Electrical Subsystems; A-652-0215, Auxiliary Electrical Systems; and other courses not evaluated.

Credit Recommendation: Please refer to the individual exhibits for credit recommendation (10/93).

NV-1714-0071

AN/USM-604 Electrical Equipment Test Set
Operator/Maintainer Intermediate
Maintenance

Course Number: C-602-4295.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 7-8 weeks (280-304 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will operate specialized electrical test equipment.

Instruction: Course covers connection and operation of electrical test equipment. Methodology includes lectures and laboratory test set demonstrations.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1714-0072

Angle Rate Bombing Set (ARBS)/Operational
Test Program Set (OTPS)
Intermediate Level Maintenance

Course Number: C-112-3716.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate specialized electrical test equipment.

Instruction: Course covers the operation and use of specialized electrical test equipment. Methodology includes lectures and laboratory test set demonstrations.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1714-0073

Electrician's Mate, Class A

Course Number: A-661-0104.

Location: Nuclear Power Training Command, Orlando, FL.

Length: 16 weeks (457 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic arithmetic operations; solve basic equations using phasors, vector notations, and basic trigonometry; solve DC and AC circuits, including resonance, transformers, basic three-phase circuits, analog, and digital circuits; demonstrate working of DC and AC motors and generators; operate electrical equipment using controllers; test, maintain, troubleshoot, and repair electrical circuits, AC and DC motors, cables, circuit breakers, and other related electrical equipment for power distribution; demonstrate proper use of electrical test equipment such as multimeter, function generator, oscilloscope, frequency meter, power meter, synchronoscope, phase rotation meter, and remote speed controller for measurement and troubleshooting; and perform basic soldering.

Instruction: Instruction involves theory and laboratory with extensive use of test equipment in the areas of basic electricity, basic electronics, and electrical equipment. The mathematics component covers arithmetic operations, scientific notation, first-order algebraic equations, metric prefixes, conversions, exponents, polynomials, introduction to trigonometric functions and vector notation, colinear and noncolinear vectors, complex numbers, polar and rectangular conversions, phasor diagrams, and solution of electrical problems using phasors. Basic concepts of geometry to calculate area, volume, and perimeter are included. Problem solving in all of the above includes multiple concept problems. The basic electricity component covers electrical quantities; power; series, parallel, and series-parallel circuit analysis; magnetism; inductance, capacitance, and transient circuits; AC fundamentals; reactance; impedance; analysis of RL, RC, and RLC circuits; AC power; power factor; three-phase circuits; delta and Wye connections; resonance and transformers; DC and AC motors and generators; series, induction, and synchronous motors; rotating field multiphase motors; basic soldering techniques; maintenance troubleshooting and repair of electrical circuits, using multimeter, function generator, and oscilloscope; electrical safety practices; and use of basic hand tools. The basic electronics component covers diodes; bipolar function transistors; SCR, UJT, FET, and amplifier circuits; magnetic amplifiers; troubleshooting techniques; basic operational amplifiers and applications for temperature sensing, alarms, and AC voltage regulation; introduction to digital electronics; logic gates; flip-flops; counters; experiments in all of the above topics including basic troubleshooting techniques. The electrical equipment component covers the theory of AC and DC motors and generators; three-phase generators and motors; maintenance procedures; cables and shipboard lighting systems; principles of DC and AC controllers; circuit breakers; switchboard operations; 400 Hz distribution systems; transformer banks; branch box; distribution panel; performance tests; cable testing; insulation resistance tests; storage batteries; and use of multimeter, power motor, frequency meter, synchroscope, synchronizing lamps, phase rotation meter, and remote governor speed controller.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics including algebra II, 3 in electrical troubleshooting and repair, 3 in AC circuits, 3 in DC circuits, 4 in basic electronics, and 4 in electrical machinery (2/95).

NV-1714-0074

AN/TPN-22 Maintenance, Class M3
(AN/TPN-22 Maintenance)
(AN/TPN-22 Maintenance, Class M1)

Course Number: C-103-2081.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 14-15 weeks (568 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the AN/TPN-22 radar set at the organizational and intermediate level.

Instruction: Lectures and practical exercises cover radar systems using systematic troubleshooting with appropriate test equipment. Operational checks and measurement of system parameters is performed using applicable technical publications. Alignment and adjusting procedures are taught along with preventive maintenance requirements.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in radar systems and 1 in electrical safety (8/96).

NV-1714-0075

Marine Air Traffic Control Technician
Common Core, Class M3
(Marine Air Traffic Control Technician Common Core)

Course Number: C-103-2072.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 3 weeks (120 hours).

Exhibit Dates: 11/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain logic circuits and communications equipment and will have received an introduction to computers.

Instruction: The course is taught using both formal classroom presentations and associated laboratory experiments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital circuits and 1 in electrical safety (11/95).

NV-1714-0076

Electrical Motor Rewind

Course Number: J-662-0021.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to diagnose and repair DC and AC motors, completely rewind motors, and calculate rewinding specifications of motors using wire tables and formulas.

Instruction: Methods of instruction include lectures and practical exercises. Topics covered include recording data; constructing wiring diagrams; and rewinding, assembling, and testing DC motors, single-phase AC motors, and three-phase AC motors.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electric motor operation, repair, and rewinding (11/95).

NV-1714-0077

Aviation Ordnanceman Common Core, Class A1

Course Number: C-646-2011.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 4-5 weeks (172 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will perform routine and planned maintenance of aircraft ordnance systems.

Instruction: This course covers aircraft maintenance practices, basic electricity, electrical test equipment, and aircraft armament systems, including guns, ammunition, rockets, and bombs. Instructional methods include lectures, discussions, and laboratory assignments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits (1/97).

NV-1714-0078

Aviation Ordnanceman Airwing Strand, Class A1

Course Number: C-646-2012.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 3 weeks (116 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student perform planned and unplanned maintenance on aircraft ordnance systems at the squadron level.

Instruction: This course covers aircraft armament systems at an operational level, Including loading and downloading of guns, rockets, and bombs. This is a hands-on laboratory intensive course.

Credit Recommendation: For credit for the Common Core, see NV-1714-0077 (1/97).

NV-1714-0079

Aviation Ordnanceman Weapons Department Strand, Class A1

Course Number: C-646-2013.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 1-2 weeks (60 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance on aircraft weapons subsystems at the weapons department level.

Instruction: This course covers aircraft armament systems at an intermediate level, including weapons systems assembly and disassembly. This is a laboratory intensive course.

Credit Recommendation: For credit for the Common Core, see NV-1714-0077 (1/97).

NV-1714-0080

Advanced Base Power Plant Maintenance

Course Number: A-721-0024.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: 2 weeks (70 hours).

Exhibit Dates: 9/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, troubleshoot, maintain, and operate electrical power generator, power plants, and associated equipment.

Instruction: Lectures and laboratory experience cover installation procedures, troubleshooting techniques, maintenance guidelines, and operation of single and parallel electrical power plant installations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical power generation (4/97).

NV-1714-0081

Electrical Power Distribution 2

Course Number: A-721-0025.

Location: Construction Training Center, Port Hueneme, CA; Construction Training Center, Gulfport, MS.

Length: 2 weeks (70 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, troubleshoot, and maintain electrical power distribution systems and exterior lighting systems.

Instruction: Lectures and laboratory experiences cover instruction procedures, troubleshooting techniques, maintenance guidelines for power distribution systems, including overhead and underground installations and airfield and street lighting systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical power distribution (4/97).

NV-1714-0082

E-6A Aircraft Wiring and Connector Repair Organizational/Maintenance

Course Number: C-602-3514.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 2 weeks (64 hours).

Exhibit Dates: 11/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use high reliability soldering equipment to repair aircraft connectors and coaxial cables, use compressed air/nitrogen heat gun, strip and splice wires, and perform solderless repair using crimp tools.

Instruction: Traditional lecture and hands-on skills development exercises use high reliability soldering and compressed air/nitrogen heat gun for the assembly and disassembly of connectors, coaxial cables, and wire splices; proper use of flux; and use of crimp tools for solderless repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in high reliability soldering (4/97).

NV-1714-0083

10kW and 70kW 400 Hertz Motor Generator Combined Maintenance

Course Number: A-662-0132.

Location: Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (70 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance procedures on motor generator sets and corrective and preventive maintenance procedures on AC and DC converter.

Instruction: Theory and laboratory exercises cover general, physical, functional and interface description and preventive maintenance procedures of the 70kW and 10kW 400 Hertz motor generator sets; cleaning, inspecting and measuring insulation resistance of the motor generator sets; recognizing and interpreting malfunctions of 400 Hertz motor generator set and frequency regulator; testing overspeed trip switch of 400 Hertz generator-motor sets; and performing fault isolation on the 70kW AC to DC converter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical machinery lecture and 1 in electrical machinery laboratory (4/97).

NV-1714-0084

FFG-7/MCD-1 Automatic Degaussing System Maintenance

Course Number: A-690-0078.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Before 10/96 see NV-1601-0026. Upon completion of the course, the student will be able to operate, troubleshoot, and repair to the component level automatic degaussing equipment; use technical manual to locate components and sub-assembly in the degaussing system; and test out of circuit continuity and resistance using a digital volt meter; and trace power flow paths of the power distribution system.

Instruction: Group-paced lecture/laboratory exercises and demonstrations on the MCD-1 Automatic degaussing system and theory of degaussing.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electrical maintenance (10/97).

NV-1714-0085

SSM Automatic Degaussing System Maintenance for DD-963 Class

Course Number: A-690-0022.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Before 10/96 see NV-1601-0017. Upon completion of the course, the student will be able to operate, troubleshoot, and repair the component level automatic degaussing equipment; use technical manual to locate and identify solid state devices; test out of circuit continuity and resistance of solid state

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devices; and trace power flow paths of the power distribution system.

Instruction: Group-paced performance exercises, lectures, and demonsrations on the SSM automatic degaussing system and theory of degaussing.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electrical maintenance (10/97).

NV-1714-0086

FFG-7/DDG-993 60/400 Hertz Frequency Converter (Water-Cooled) System Maintenance

Course Number: A-652-0243.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Before 10/93 see NV-1714-0029. Upon completion of the course, the student will be able to train personnel in maintenance and troubleshooting procedures for a 60 to 400 Hertz converter.

Instruction: Lectures and practical exercises cover the theory of operation, component function, and maintenance and troubleshooting procedures for a converter including rectifier circuits and digital control circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/97).

NV-1715-0009

AN/UCC-1 Series Telegraph Terminal Maintenance (Electronics Technician, Class C1)

Course Number: A-101-0023; A-101-0022.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 2 weeks (60-80 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide the skills and knowledge necessary to operate and maintain the AN/UCC-1, 1C, and 1D telegraph terminals and to operate and use associated test equipment to the extent required for maintenance of the telegraph terminals.

Instruction: Course includes operational characteristics and system configurations, location and identification of major units and subunits, test sets, operating procedures, AC and DC power distribution, frequency shift keyers, control attenuators, frequency shift converters, block and schematic diagram analysis, and system troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic troubleshooting (5/82).

NV-1715-0029

AN/SPA-25/-25(B) Radar Indicator and SB-1505 Switchboard Maintenance

Course Number: A-104-0130; A-104-0129.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 3 weeks (90 hours).

Exhibit Dates: 1/90–3/91.

Objectives: After 3/91 see NV-1715-1586. To provide training for the operation and maintenance of a radar distribution switchboard and radar display system.

Instruction: Course includes operation and familiarization of a signal distribution switchboard and a radar indicator, including power supply, display circuits, and troubleshooting techniques.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics (5/82).

NV-1715-0031

RD-293/UYK-5 Card Reader Punch Maintenance

Course Number: A-150-0049.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide data systems technicians with the theory of operation and maintenance of a card reader/punch unit.

Instruction: Lectures and practical exercises cover the theory of operation and the maintenance of a computer input/output card reader/punch, including the mechanical operations, power distribution, memory operation, block diagram analysis, and electronic circuit fault analysis and repair.

Credit Recommendation: In the vocational certificate category, 1 semester hour in computer I/O equipment operation and repair (11/81).

NV-1715-0050

Digital and Electronics Training

Course Number: K-130-0271.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 13-16 weeks (508-560 hours).

Exhibit Dates: 1/90–7/96.

Objectives: To provide enlisted personnel with the skills and knowledge necessary to interpret, analyze, and troubleshoot electronic equipment.

Instruction: Course covers, at a basic level, algebra; trigonometry; scientific notation; construction techniques; basic electricity and electronic theory; AC/DC circuit analysis; semiconductor theory; basic AM/FM theory; basic servo principles; Boolean algebra; binary, octal, and hexadecimal number systems; computer architecture; digital logic circuits; and computer troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in AC/DC circuits, 3 in solid state electronics, 3 in digital fundamentals, 1 in introduction to computers, and 1 in synchros (7/86).

NV-1715-0052

AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance

Course Number: C-102-3944.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train enlisted personnel to operate, test, maintain, and repair radio receivers.

Instruction: Lectures and laboratory instruction at the block diagram level cover control data registers, Boolean logic, digital modulation and driver circuits, rate and dwell circuitry, and voltage-controlled RF oscillators. Emphasis is placed on publication interpretation and troubleshooting of specialized equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in systems maintenance laboratory (7/80).

NV-1715-0053

AN/ALQ-99 Jamming Transmitters and AN/ALM-107B Countermeasures Test Station Intermediate Maintenance (AN/ALQ-99 Jamming Transmitters and AN/ALM-107 Countermeasures Test Station Intermediate Maintenance)

Course Number: C-102-3946.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 11-12 weeks (440-480 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train enlisted personnel in maintenance, repair, and functional testing procedures for special-purpose radio transmitters.

Instruction: Lectures and practical exercises cover troubleshooting, repair, power distribution and control, countermeasures, power supply modules, RF source, traveling wave, tube testing, and block and signal flow analysis.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic communications and 3 in electronic communications laboratory (7/80).

NV-1715-0054

AN/ALM-108 Surveillance Receiver Test Station AN/ALQ-99 Surveillance Receivers Intermediate Maintenance

Course Number: C-102-3945.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train enlisted personnel in the maintenance, repair, and testing of specific radio receivers.

Instruction: Lectures and practical exercises cover the operational theory, voltage levels, and signal flow in each subsystem of a surveillance receiver. The subsystems include power supplies, power distribution, local oscillators, radio and intermediate frequency amplifiers, video amplifiers, video-to-digital converters, and mixer circuits. Practical work is done in troubleshooting using oscilloscopes, frequency counters, and digital voltmeters.

Credit Recommendation: In the vocational certificate category, 6 semester hours in the theory and repair of communications systems (7/80); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic technology communications laboratory or 3 semester hours in general technical elective for non—electronic technology students (7/80).

NV-1715-0056

AN/URT-23 Radio Transmitter Set With AN/URA-38 Antenna Coupler

Maintenance (Electronics Technician, Class C1)

(AN/URT-23(V) Radio Transmitting Set and AN/URA-38 Antenna Coupler Maintenance, Class C)

Course Number: A-101-0051; A-101-0049.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 4 weeks (144 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train enlisted personnel in the operation and maintenance of specific radio transmitter sets.

Instruction: Course covers practical training in the operation and maintenance of an AN/URT series radio transmitter using single sideband CUI, amplitude modulated, independent sideband, and frequency shift keying. The student uses general purpose test equipment and troubleshoots defective radio equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radio transmitter operation, maintenance, and troubleshooting (5/82).

NV-1715-0062

Submarine Gyrocompass Mk 19 Mod 3 Combined Maintenance

Course Number: A-670-0042.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Missile Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 3-4 weeks (90-120 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train students to operate and maintain specific submarine gyrocompasses.

Instruction: Lectures and practical exercises cover the theory of operation of the gyrocompass to the component level, including alignment, adjustment, fault isolation, and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in servo amplifier control system troubleshooting (6/81).

NV-1715-0065

Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System

(Fleet Ballistic Missile (FBM) Tender Navigation Maintenance)

(Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance)

Course Number: A-193-0036.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 6-8 weeks (240-248 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train electronics technicians to maintain inertial navigation systems.

Instruction: Lectures and practical exercises cover the operation, maintenance, and repair of an inertial navigation subsystem and its support equipment including specialized test sets and equipment (VOMs, oscilloscopes, wave analyzers, distortion analyzers, and signal generators); optical equipment alignment and maintenance; Selectric typewriter maintenance and theory, and paper tape unit operation and repair.

Credit Recommendation: In the vocational certificate category, 1 semester hour in typewriter maintenance and 1 in optical equipment maintenance/alignment techniques (6/89); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronics maintenance laboratory (6/89).

NV-1715-0069

AN/AJM-32(V) Special Support Equipment Intermediate Maintenance

(AN/AJM-32(V) Intermediate Maintenance)

Course Number: C-150-3784.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 3 weeks (112 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train personnel in maintenance techniques, including the testing, calibration, and troubleshooting of digital electronic equipment.

Instruction: Lectures and practical exercises cover operational theory, safety procedures, maintenance and troubleshooting, and repair of digital electronic equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital electronic control systems or 2 semester hours in digital electronics for electrical engineering majors (3/82).

NV-1715-0075

Plotting System Mk NC-2 Mod 1A Maintenance

Course Number: A-623-0021; A-623-0020.

Location: Technical Training Command, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train enlisted personnel to maintain, troubleshoot, and repair the Mk NC-2 Mod 1A plotting system.

Instruction: Lectures and practical exercises cover a review of basic electronics and servo systems and complete coverage of an electromechanical system, including plotting table, data converter, dead reckoning indicator, and troubleshooting techniques.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electromechanical systems (9/83); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical systems (9/83).

NV-1715-0082

Plotting System Mk NC-2 Mod 0 Maintenance

Course Number: A-623-0019; A-623-0018.

Location: Service School Training Division, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train enlisted personnel to maintain, troubleshoot, and repair Mk NC-2 Mod 0 plotting systems.

Instruction: Lectures and practical exercises cover a review of basic electronics and servo systems and complete coverage of an electromechanical system, including plotting table, data converter, dead reckoning indicator, and troubleshooting techniques.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical systems (9/83); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical systems (9/83).

NV-1715-0088

AN/SRC-20, AN/SRC-21 Radio Sets Maintenance (Electronics Technician, Class 1)

(Electronics Technician, AN/SRC-20, AM/SRC-21 Radio Set Maintenance)

(Electronics Technician, AN/URC-9, AN/SRC-20, AN/SRC-21 Radio Sets with AN/SRA-33 Antenna Coupler Maintenance)

Course Number: A-101-0011; A-101-0016; A-101-0015.

Location: Electronics Technician, Class C School, Treasure Island, San Francisco, CA; Electronics Technician, Class C School, Pearl Harbor, HI; Electronics Technician, Class C School, Norfolk, VA; Electronics Technician, Class C School, San Diego, CA.

Length: 3-4 weeks (90-160 hours).

Exhibit Dates: 1/90–9/92.

Objectives: To train enlisted personnel to operate, maintain, and repair the AN/SRC-20/21 radio sets and associated test equipment.

Instruction: Lectures and laboratories in AN/SRC-20/21 radio set function during broadband, normal, retransmit, and tone modes of operation; radio set power requirements, frequency range, frequency selection, and output data; receiver, modulator, transmitter, channel selection, and antenna coupler signal characteristics and signal tracing by use of block diagrams; and radio set alignment, operational checks, and maintenance testing procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aviation electronics laboratory and 1 in electronic troubleshooting (5/82).

NV-1715-0090

Teletypewriter AN/UGC-20B/25 Combined Maintenance

(AN/UGC-20A/25A Teletypewriter Set Maintenance)

(AN/UGC-20/25 Teletypewriter Set Maintenance)

Course Number: F-160-0064; A-160-0066; A-160-0065; A-160-0064.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Missile Submarine Training Center, Charleston, SC; Submarine Base, New London, Groton, CT.

Length: 5-7 weeks (150-264 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train submarine radiomen and submarine tender personnel to maintain and repair the AN/UGC-20/25 teletype machine.

Instruction: Lectures and practical exercises cover AN/UGC-20/25 teletype machine fundamentals and operating procedures for each section of the machine, fault isolation and repair to major subassemblies of the electrical and mechanical systems, routine maintenance and cleaning, and material usage.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electromechanical repair and 1 in electromechanical laboratory (3/81).

NV-1715-0103

Solid State Theory and Digital Electronics

Course Number: K-113-2067.

Location: Fleet Training Center, Yokasuka, Japan; Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, San Diego, CA.

Length: 2-3 weeks (60-95 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide electronics technicians with training in semiconductor and solid state technology.

Instruction: Lectures and laboratory exercises cover solid state devices, including diodes, bipolar and field effect transistors, operational amplifiers, thyristors; digital circuits, including logic gates, flip-flops, shift regulators, counters, combinational circuits, arithmetic elements; and ROM and RAM memories, amplifiers, and oscillators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital electronic devices and 1 in digital electronic laboratory for electrical engineering majors (5/82).

NV-1715-0111

ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance

(Computer Detector (CP-413/ASA-27) Intermediate Maintenance)

Course Number: C-150-3487.

Location: Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group Detachment, North Island, San Diego, CA.

Length: 8-9 weeks (320-360 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train enlisted personnel who are familiar with digital fundamentals and avionics systems to operate, test, and repair computer detectors.

Instruction: Lectures and practical exercises cover computer detector operation, function, and theory, including system power supply, block diagram, drum servo system, and timing generator operation; target detection, including radar magnetic drum, density detectors, and IFF decoder and density detector; data acquisition, including data control and counting, servos, and translators; target computation, including programmer, drum memory, height coordinate computer, and arithmetic and transfer logic; and test circuits and troubleshooting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic/digital systems and 1 in electronics laboratory (5/85).

NV-1715-0112

AN/APN-70B Loran System Intermediate Maintenance

(P-3 AN/APN-70 Loran System Intermediate Maintenance)

Course Number: C-102-3539.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 2-3 weeks (80-120 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel who have backgrounds in transistor theory to operate and maintain the AN/APN-70 Loran navigation system.

Instruction: Lectures and practical exercises on the AN/APN-70 Loran navigation system components and equipment familiarization, including circuit analysis, block-diagram analysis, radar introduction, low-voltage power supplies, oscillators, and antennas; calibration and alignment adjustment procedures; bench setup; troubleshooting Loran equipment; associated test equipment use; and equipment malfunction isolation and repair procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in avionics or marine electronics (7/81).

NV-1715-0119

Underwater Fire Control Group Mk 111 Maintenance

Course Number: A-130-0056; K-130-0056.

Location: Fleet Antisubmarine Warfare Training Center, Pacific, San Diego, CA.

Length: 18-23 weeks (540-920 hours).

Exhibit Dates: 1/90–7/96.

Objectives: To provide selected sonar technicians with the necessary skills to maintain specified fire control equipment.

Instruction: Lectures and practical exercises cover the preventive and corrective maintenance of sonar-based fire control equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic digital troubleshooting (7/86).

NV-1715-0133

Underwater Fire Control Group Mk 114 Maintenance

Course Number: K-130-0057.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train enlisted personnel to perform maintenance on a specified fire control system.

Instruction: Lectures and practical exercises cover Mk 114 fire control system maintenance, including introduction to weapons, basic maintenance techniques, relay transmitter and position indicator operation, input data flow and stabilization computer maintenance, and attack console operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in systems troubleshooting (7/86).

NV-1715-0146

A-7E AN/ASM-375 Inertial Measurement System Test Set Intermediate Maintenance

Course Number: C-102-3798.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 6-7 weeks (240-260 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to repair inertial measurement system test sets.

Instruction: Lectures and practical exercises cover inertial measurement system theory and maintenance techniques, including digital fundamentals, logic functions, and trace signal flow. Course includes fault isolation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronics fundamentals or 1 semester hour in digital electronics fundamentals for electrical engineering majors (3/82).

NV-1715-0147

Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount

Course Number: K-041-2051.

Location: Fleet Training Center, San Diego, CA.

Length: 3 weeks (90 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train enlisted personnel to perform preventive and corrective maintenance and casualty analysis on the 3"/50 Mk 35 power drive rapid fire gun mount.

Instruction: Lectures and practical exercises in Mk 35 power drive description, function, and operation; power control, gun mount control, and motor field control circuits; and inspection, testing, and preventive and corrective maintenance procedures. Course includes basic electrical theory including AC/DC circuits and circuit theory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electrical theory (5/82).

NV-1715-0155

Fire Control, Class A

(Fire Controlman)

Course Number: A-113-0021; A-113-0019; A-113-0012; A-113-0010.

Location: Service Schools Command, Mare Island, Vallejo, CA; Service School Command, Great Lakes, IL; Service School Command, Bainbridge, MD.

Length: 22-26 weeks (880-910 hours).

Exhibit Dates: 1/90–9/92.

Objectives: After 9/92 see NV-1715-1713. To train enlisted personnel with prior electrical experience in complex weapons guidance and control systems.

Instruction: Lectures and practical exercises in the use of fire control equipment and all related equipment to keep the fire control system operational, including test equipment, transmitters, receivers, motor generators, gyros, synchros, resolvers, servo system fundamentals, oscilloscope operation, amplifiers, oscillators, and waveforming circuitry without a rigorous mathematical treatment. Also included are lectures and practical exercises on microwave tubes, waveguides, video amplifiers, antennas, radar principles, logic blocks, numbering systems and arithmetic, Boolean expressions and realization, adders, counters, digital computers, I/O systems, converters (AD and DA), programming, analog computer fundamentals, encoders, decoders, core memory, and fire control radar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in solid state electronics, 3 in electromechanical systems, 3 in digital circuits, 2 in microwave fundamenfals, 1 in electronics laboratory, 1 in digital laboratory, and 1 in radar maintenance (8/93).

NV-1715-0159

AN/AVA-1 Vertical Display Indicator Group Intermediate Maintenance

Course Number: C-198-3761.

Location: Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 5 weeks (216 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train technicians to troubleshoot, maintain, and repair a radar vertical display system.

Instruction: Lectures and laboratory instruction cover basic electronic theory including flip-flops, logic devices, and Schmitt triggers. Also included are basic television, power supplies, video amplifiers, and saw tooth generators as found in the display indicator both at the block and schematic level. Approximately half the course is devoted to video circuit theory and the remainder to practical application and laboratory work.

Credit Recommendation: In the vocational certificate category, 6 semester hours in electronic technology and 3 in electronics laboratory (7/80); in the lower-division baccalaureate/associate degree category, 4 semester hours in engineering electronic technology (7/80).

NV-1715-0162

AN/ASN-99(V) Projected Map Display Set Intermediate Maintenance
(AN/ASN-99 Projected Map Display Set Intermediate Maintenance)

Course Number: C-102-3787.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train qualified electronics technicians to operate, maintain, and troubleshoot the AN/ASN-99 projected map display set.

Instruction: Lectures and practical exercises cover AN/ASN-99 projected map display set operation, maintenance, and troubleshooting, including servomechanisms, block-diagram analysis, maintenance, and fault isolation procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic circuit analysis and 1 in electronic troubleshooting laboratory for non—electrical engineering majors (3/82).

NV-1715-0166

Sonar Communications Set AN/WQC-2/2A Operation and Maintenance (Surface)
(Sonar Communications Set AN/WQC-2/2A Operation and Maintenance)

Course Number: K-130-0213; A-130-0213.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA; Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 1-2 weeks (42 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To instruct personnel in the operation and routine maintenance of a sonar communications set.

Instruction: Instruction covers routine operation and maintenance of the sonar communications set.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/89).

NV-1715-0172

P-3 AN/APA-125A Indicator Group Intermediate Maintenance
(P-3 AN/APA-125A Indicator Maintenance, No. 48)

Course Number: C-102-3535.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 3 weeks (104 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide maintenance personnel with a knowledge of electronics and transistor theory to operate, calibrate, align, and maintain an aircraft radar indicator display.

Instruction: Lectures and practical exercises cover theory, maintenance, and operation of the AN/APA-125A radar indicator, including low- and high-voltage power supplies, range gate generators, video amplifiers and mixers, indicator control circuits, sweep circuits, and servo systems.

Credit Recommendation: In the vocational certificate category, 2 semester hours in basic radar theory and operation (7/81).

NV-1715-0175

AN/SRN-15 TACAN Distance Azimuth Measuring Equipment (DAME) Maintenance
(Electronics Technician, Class C1)

Course Number: A-102-0124.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 3 weeks (90-120 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train electronics technicians to operate, align, and repair AN/SRN-15 TACAN azimuth measuring equipment.

Instruction: Lectures and laboratory exercises cover circuit analysis and block diagrams of receivers and transmitters, logic sections, RF and control sections, power supplies and antennas, and test equipment for troubleshooting and repairing the specified equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems maintenance laboratory (5/82).

NV-1715-0178

AN/ASQ-10 Magnetic Anomaly Detector Intermediate Maintenance
(AN/ASQ-10A Magnetic Anomaly Detecting Systems Intermediate Maintenance)
(P-3 AN/ASQ-10A Magnetic Anomaly Detecting Systems Maintenance, No. 42)

Course Number: C-102-3059.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Key West, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Quonset Point, RI; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 3 weeks (80-104 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train enlisted personnel to maintain, calibrate, align, troubleshoot, and repair magnetic anomaly detecting systems.

Instruction: Lectures cover magnetic anomaly detector block diagrams, theory of operation, maintenance, calibration, alignment, troubleshooting, and subsystems maintenance and repair, including power supplies, detecting head, magnetometer oscillator and amplifier, band pass and pen amplifier, test circuits, and error voltage controls.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/81).

NV-1715-0179

Gun Maintenance 5"/54 Caliber Rapid Fire Mk 42

Course Number: J-041-0123.

Location: Fleet Antiair Warfare Training Center, Dam Neck, VA.

Length: 2-3 weeks (70-115 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train gunnery personnel to operate and maintain the 5"/54 (RF) gun mount.

Instruction: Lectures and practical exercises cover the operation of 5"/54 (RF) gun mount, safety precautions, gun loading systems tests and adjustments, corrective and preventive maintenance, and troubleshooting techniques.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/91).

NV-1715-0190

E-2A AN/ARC-80 Radio Set Intermediate Maintenance
(E-2A Radio Set AN/ARC-80 Intermediate Maintenance)

Course Number: C-150-3477.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Miramar, San Diego, CA.

Length: 4-6 weeks (160-240 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train fleet maintenance personnel to maintain the E-2A AN/ARC-80 SSB transmitter, receiver, and associated test equipment.

Instruction: Lectures and practical exercises cover SSB transmitter and receiver circuit analysis; operating principles; section theory; radio frequency amplifier, antenna coupler, and trailing-wire antenna operation and maintenance; amplifier control; high-voltage circuits; control indicator; set control operation and maintenance; and AN/ASM 228 test bench and test procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems and 1 in electronic communications laboratory (5/85).

NV-1715-0191

AN/AQH-1 Tape Recorder/Reproducer Set Intermediate Maintenance

Course Number: C-102-3534.

Location: Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train intermediate maintenance personnel to operate, maintain, and modify the AN/AQH-1 recorder/playback device.

Instruction: Lectures and practical exercises cover basic tape recorder principles, head circuits, motor and control circuits, power supply, FM and direct-channel theory of operation, and precision plate assembly maintenance.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electronics laboratory (7/81).

NV-1715-0193

AN/URN-20 Radio Set Maintenance

(AN/URN-20 TACAN Maintenance (Electronics Technician, Class C1))

(Electronics Technician AN/URN-20 Radio Set, Class C Maintenance)

Course Number: A-102-0035; A-102-0034.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–12/91.

Objectives: After 12/91 see NV-1715-1589. To train enlisted personnel to operate and maintain the AN/URN-20 radio receiver-transmitter.

Instruction: Lectures and practical exercises cover AN/URN-20 radio receiver transmitter operation, including basic air navigation systems, power distribution, antenna system, receiver, keyer, coder, and transmitter maintenance, test equipment operation, and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic navigation systems and 1 in electronic troubleshooting, or for non- electrical engineering majors, 3 semester hours in electronic systems theory and 1 in electronics laboratory (5/82).

NV-1715-0200

AN/APN-190(V) Doppler Radar Navigation System Intermediate Maintenance

(A-7 AN/APN-190 Doppler Radar Navigation System Intermediate Maintenance)

Course Number: C-102-3785.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 6-7 weeks (240-264 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train enlisted personnel to maintain, operate, and repair a Doppler radar system.

Instruction: Lectures and practical exercises cover the maintenance of the AN/APN-190 Doppler radar navigation system, including block-diagram analysis and receiver, transmitter, antenna, and control indicator analysis. Course includes troubleshooting techniques and repair procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in aviation electronics and 1 in aviation electronics laboratory for non—electrical engineering students or 1 semester hour in electronics laboratory for electrical engineering majors (3/82).

NV-1715-0202

Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration

Course Number: A-193-0300.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide an advanced knowledge of the theory of operation and calibration of the specified navigation system.

Instruction: Lectures and laboratories cover monitor gyro mechanism, monitor gyro error analysis, and use of current procedures for performing calibration and evaluation of data. VM bias, DEACON, PAD/PAP/HAP calibrations are performed on an operational system.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/81).

NV-1715-0227

AN/AYK-2 Navigation Computer Group and OA-1768A Plotter Board Group Intermediate Maintenance

Course Number: C-102-3397.

Location: Air Maintenance Training Detachment, North Island CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 4 weeks (152-160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train naval maintenance personnel with backgrounds in electronics to operate, calibrate, test, align, and maintain the SH-3 (SH-3A/D) helicopter's automatic navigation system at the intermediate level.

Instruction: Lectures and practical exercises cover automatic navigation system introduction; AN/AYK-2 computer group theory and maintenance; DA-1768A display plotting board group, theory of operation and maintenance; and operation and maintenance procedures for memory and indicator groups. Instruction includes synchro fundamentals review and computer inputs and aerial navigation.

Credit Recommendation: In the vocational certificate category, 1 semester hour in synchro and differential generators and 1 in aircraft electrical navigation equipment (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical control systems (3/82).

NV-1715-0232

Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance I

(Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Control Theory)

Course Number: A-193-0262; A-193-0296.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Charleston, SC.

Length: 2 weeks (60-80 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train navigation electronics technicians to operate and maintain the Mk 2 Mod 6 ships inertial navigation system.

Instruction: Lectures cover the sequencing, development, and distribution of the Mk 2 Mod 6 SINS equipment power and the functional operation and detailed circuit analysis of data transmission loops, binnacle circuitry, temperature controls, mode selection circuitry, PAD/PAP mode control circuitry, diagnostic electronics, tape reader, gyro torquing electronics, and system alarm circuitry.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical maintenance and repair laboratory (3/81).

NV-1715-0235

Surface Sonar AN/SQS-56 Operations

Course Number: K-130-0214.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–7/96.

Objectives: To train personnel in the operation of a sonar detecting and ranging set.

Instruction: Course includes a study of the controls, indicators, and functional description of the sonar system. It also includes power up and power down procedures, use of displays, system operation under emergency conditions, and operator maintenance.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/86).

NV-1715-0247

Introduction to the Airborne Loran AN/ARN-81 Maintenance

(AN/ARN-81 Loran Intermediate Maintenance)

(C-2A AN/ARN-81 Loran Intermediate Maintenance)

Course Number: C-102-3043.

Location: Air Maintenance Training Detachment, Patuxent River, MD; Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, North Island, San Diego, CA.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train maintenance personnel to maintain and service the AN/ARN-81 long-range (Loran) navigation system.

Instruction: Lectures and laboratories cover Loran system theory, timing circuits, display circuits, and troubleshooting and aligning a military Loran receiver.

Credit Recommendation: In the vocational certificate category, 3 semester hours in avionics or marine electronics (7/81).

NV-1715-0249

AN/VRC-46 and RT-46 Transceiver System Maintenance

(AN/VCC-2, AN/VRC-46, and AN/SRA-60 Telephone-Telegraph Communication System)

Course Number: A-101-0063.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–11/90.

Objectives: After 11/90 see NV-1715-1598. To train enlisted personnel to maintain AN/VCC-2 and AN/VRC-46 telephone equipment.

Instruction: Lectures and laboratory exercises cover a radio transceiver system, including operation, maintenance, alignment, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic troubleshooting (5/82).

NV-1715-0254

AN/ACQ-2/2A DATA COMMUNICATIONS SYSTEMS AND ASSOCIATED TEST SET EQUIPMENT INTERMEDIATE MAINTENANCE

(E-2A AN/ACQ-2 and AN/ACQ-2A Data Terminal Sets Intermediate Maintenance)

Course Number: C-150-3478.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Miramar, San Diego, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train maintenance personnel to operate and troubleshoot the AN/ACQ-2 data terminal set and the AN/ASM-228 and AN/USM-145 test benches.

Instruction: Lectures and practical exercises cover the maintenance of the AN/ACQ-2 data terminal set and the AN/ASM-228 and AN/USM-145 test benches, including data terminal system familiarization, logic circuits, code generation, Doppler and synchronization circuits, code recognition circuits, control circuits, oscilloscope, counter, signal generator, wave analyzer, distortion analyzer, and operation of specialized test benches.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital communications and 1 in digital communications laboratory (5/85).

NV-1715-0256

P-3C SENSOR STATION ONE AND TWO (ACOUSTIC SYSTEMS TECHNICIAN) ORGANIZATIONAL MAINTENANCE

Course Number: C-102-3590.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 4-5 weeks (160-200 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train enlisted personnel to maintain the acoustic systems of the P-3C aircraft to the module level.

Instruction: Lectures and practical exercises cover the maintenance and troubleshooting of the acoustic systems of the P-3C aircraft, including operation and components of the sonobuoy receiver system, the bathythermograph recorder, the TD-900/AS time code generator-decoder, the AN/AQH-4 sound recorder-reproducer system, and the sonar computer recorder group.

Credit Recommendation: In the vocational certificate category, 3 semester hours in marine electronics (7/81).

NV-1715-0260

AN/APQ-126 (V) RADAR SET INTERMEDIATE MAINTENANCE

(A-7E AN/APQ-126 Radar Set Intermediate Maintenance)

Course Number: C-104-3785.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 5-6 weeks (207-240 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train aviation fire control technicians to maintain, operate, troubleshoot, and align AN/APQ-126 radar sets using appropriate test sets.

Instruction: Lectures and practical exercises cover the operation, troubleshooting, and alignment of the AN/APQ-126 radar set, including power supply programmers, transmitter/modulators, antenna/receivers, air navigation computers, sweep generators, fault locators, multiple-indicator displays, and test sets.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic maintenance and 1 in electronic maintenance laboratory (3/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting laboratory (3/82).

NV-1715-0268

MK 116 MOD 4 UNDERWATER FIRE CONTROL SYSTEM (FCS) MAINTENANCE

Course Number: K-130-0247.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 31 weeks (1220-1240 hours).

Exhibit Dates: 1/90–4/91.

Objectives: After 6/97 see NV-1715-1854. To provide personnel with the skills and knowledge necessary to perform maintenance and repair on a specific underwater fire control system.

Instruction: Lectures and practical exercises cover numbering systems, digital logic, torpedo maintenance, general computer architecture and theory, and the AN/UYK-7 computer set and peripherals. In computer architecture topics covered include functional operation of digital computers, processors, memories, input/output, microprocessors, machine and assembly language programming, and mapping. A detailed study of the AN/UYK-7 computer, including CPU, main memory, power supply, and peripheral tape units is included as well as troubleshooting procedures, circuit measurements, diagnostic software, and systems level maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital fundamentals, 3 in computer architecture, and 6 in computer system maintenance and repair (7/86).

NV-1715-0272

SURFACE SONAR SET AN/SQS-56 MAINTENANCE

Course Number: K-130-0202.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 13 weeks (440 hours).

Exhibit Dates: 1/90–12/90.

Objectives: After 12/90 see NV-1715-1855. To train technicians to perform preventive and corrective maintenance on a sonar system under limited supervision.

Instruction: Lectures and practical exercises cover computer number systems, schematics of units and subassemblies, computer logic, input/output systems, and laboratory practice in computer logic flow diagrams.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer logic and 2 in computer maintenance laboratory (7/86).

NV-1715-0290

AN/SQQ-14 MAINTENANCE ENLISTED

Course Number: A-130-0014.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 8 weeks (217 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train enlisted personnel to apply solid state electronics theory and to perform corrective and/or preventive maintenance on the AN/SQQ-14 sonar system.

Instruction: Lectures and practical exercises cover preventive and corrective maintenance on the AN/SQQ-14 sonar system, including primary power distribution, test equipment, hoist assembly and function, servo systems, master timing, transmitters and receivers, and various timing systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours of technical elective credit in electrical or electronic associate degree programs (11/81).

NV-1715-0318

OA-3732/ASM-76 COMPUTER INDICATOR INTERMEDIATE MAINTENANCE

(E-2A Computer Indicator Semi-Automatic Checkout Equipment (SACE) Operation and Maintenance)

Course Number: C-150-3479.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Miramar, San Diego, CA.

Length: 11 weeks (440 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train enlisted personnel who have backgrounds in digital and transistor fundamentals to operate and troubleshoot the computer indicator test console.

Instruction: Lectures and practical exercises cover computer indicator test console operation and maintenance, including logic circuits, interconnection of logic elements and flip-flops; programming console operation, components, and maintenance; and logic testing procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital computer systems, 1 in digital computer systems laboratory, 1 in analog systems, and 1 in analog systems laboratory (5/85).

NV-1715-0325

AN/FRT-83, 84 AND 85 RADIO TRANSMITTERS MAINTENANCE, CLASS C1

Course Number: A-101-0052.

Location: Service School Command, Great Lakes, IL.

Length: 13 weeks (390 hours).

Exhibit Dates: 1/90–1/91.

Objectives: After 1/91 see NV-1715-1528. To train personnel to maintain, operate, troubleshoot, and adjust the AN/FRT-83 and AN/FSQ-98 radio transmitter series.

Instruction: Areas of instruction include the use of the oscilloscope, harmonic analyzer, RF generators, and other equipment to troubleshoot radio transmitting equipment, servo-amplifier, and associated relay systems. Course includes the use of schematics, timing diagrams, flow charts, and digital remote controlled radio transmitting equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radio electronics circuit maintenance (1/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in radio electronics laboratory and 1 in radio electronics circuits (1/82).

NV-1715-0329

P-3C Integrated Avionics System Technician

Course Number: C-102-3575.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 16-17 weeks (632 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train experienced fleet personnel to maintain inflight P-C3 integrated avionics systems.

Instruction: Lectures and laboratory exercises at the block diagram level cover data handling systems, magnetic tape transport and data processing, display systems, a radar system, and navigation/communications systems. Approximately half of the student's time is devoted to practical laboratory exercises.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer organization and function and 3 in electronics laboratory (7/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in avionics technology, 3 in microminiature computer functions and organization, and 2 in computer laboratory (7/81).

NV-1715-0347

E-2A Digital Data Communications System (AN/ASW-14A) Intermediate Maintenance

Course Number: C-150-3473.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Miramar, San Diego, CA.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train maintenance personnel who have had previous training in basic avionics and digital fundamentals to maintain the E-2A digital data communication system.

Instruction: Lectures and practical exercises cover the latest maintenance procedures for the AN/ASW-14A digital data communication system, including special equipment, theory of operation, circuit analysis, programming, power supply, reply input, data storage, and output; radio receiver and transmitter components; and troubleshooting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronics laboratory (5/85).

NV-1715-0353

Fire Control System (FCS) Mk 88 Mod 1 Digital Control Computer

Course Number: A-121-0288.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Submarine Training Center, Charleston, SC.

Length: 3-4 weeks (117-120 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train enlisted personnel to operate the Mk 88 digital control computer.

Instruction: The course covers the functional description of a minicomputer. Topics covered include the instruction set; word format; control sequences; and the functional description of subsystems such as the master clock, registers, core memory, arithmetic unit, memory logic, buffers, and interrupt operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in minicomputers (3/81).

NV-1715-0360

AN/APM-341(V) Doppler Test Set Intermediate Maintenance

Course Number: C-102-3800; C-104-3786.

Location: Air Maintenance Training Detachment, Lemoore, CA; Air Maintenance Training Detachment, Cecil Field, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train selected personnel to operate, maintain, and troubleshoot the AN/APM-341(V) Doppler test set.

Instruction: Lectures and practical exercises cover maintenance procedures for the AN/APM-341(V) Doppler test set, including instruction on logic concepts, radar signal simulator, spectrum analyzer, microwave converter, digital readout monitor, standing wave ratio meter, and quick-replaceable assemblies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation electronics/electronic circuit analysis and 1 in electronic circuits laboratory for non—electrical engineering students (3/82).

NV-1715-0388

AN/ASN-90 Inertial Measurement Set Intermediate Maintenance

(A-7 AN/ASN-90 Inertial Measurement Set Intermediate Maintenance)

Course Number: C-102-3788.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 3 weeks (120-136 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train enlisted personnel who have had previous training in digital fundamentals and electronics to maintain, assemble, and troubleshoot inertial measurement equipment using semiautomatic and automatic testing procedures.

Instruction: Lectures and practical exercises cover functional operation of AN/ASN-90 inertial measurement sets, controllers, adapter/power assemblies, and inertial measurement units; test and calibration procedures; and fault isolation techniques.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electronics system maintenance (3/82).

NV-1715-0389

Relay Transmitter Mk 60 Maintenance

(Relay Transmitter Mk 60 Mod 0 Maintenance UFCG Mk 114 Mods 9-12)

Course Number: A-130-0060; K-130-0060.

Location: Fleet Sonar School, Key West, FL; Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 2-3 weeks (80-105 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train enlisted personnel to operate and maintain Mk 60 Mod 0 relay transmitters.

Instruction: Lectures and laboratories cover block-diagram and circuit analysis and system operation and maintenance procedures with emphasis on system test functions. This is a highly specialized equipment course.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (7/86).

NV-1715-0400

Cryptologic Technician A (Administration), Class A

(Communications Technician Administration Branch, Class A)

Course Number: A-510-0015.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 11 weeks (417 hours).

Exhibit Dates: 1/90–10/94.

Objectives: After 10/94 see NV-1715-1876. To provide the basic knowledge required for administrative and personnel fields.

Learning Outcomes: Upon completion of the course, the student will be able to type 30 wpm with no more than 4 errors; understand and complete standard naval control forms; understand procedures and formats involved in the communications process; and exhibit competency in handling classified information.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in beginning typing (7/87).

NV-1715-0403

Radar Signal Processing Equipment Operational Maintenance

(Radar Signal Processing Equipment (RSPE) Maintenance Mk 1 and Mods 1-5)

Course Number: J-113-1112; J-113-0111.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 4-5 weeks (160-175 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train fire control technicians to operate and maintain specific radar signal processing equipment.

Instruction: Lectures and practical exercises cover the principles of operation and the development of knowledge and skills necessary to perform shipboard maintenance of video, display, and radar signal processing equipment, including identification of the interrelationship and function of the system components, casualty analysis, troubleshooting, tests, and adjustments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic equipment maintenance (10/91).

NV-1715-0408

A-7 AN/APQ-116 Radar Set Intermediate Maintenance

Course Number: C-104-3782.

Location: Air Maintenance Training Detachment, Lemoore, CA; Air Maintenance Training Detachment, Cecil Field, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to operate, maintain, service, and repair AN/APQ-116 radar sets.

Instruction: Lectures and laboratories cover radar set familiarization, security, radiation hazards, and special circuits; transmitter circuit analysis, power supplies, antenna systems, and transmitter modules; general component theory; receiver circuit analysis, antenna receivers, command computers, and alarm monitors; display analysis, sweep generators, and indicator systems; and system maintenance, troubleshooting procedures, and performance testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic high frequency circuits and 1 in high frequency circuits laboratory for non—electrical engineering majors (3/82).

NV-1715-0423

Sonar Surface Technician, Class A

Course Number: K-130-0037.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 11-12 weeks (357 hours).

Exhibit Dates: 1/90–5/90.

Objectives: After 5/96 see NV-1715-1856. To give enlisted personnel an introduction to sonar principles, fire control systems, underwater sound equipment, general purpose electronic test equipment, and aural classification techniques.

Instruction: Lectures and practical exercises cover the physics of underwater sound propagation; the components of active and passive sonar systems; operation of fire control systems; operation of auxiliary underwater equipment; aural familiarization and classification of underwater sounds; and use of voltmeters, multimeters, oscillators, counters, and oscilloscopes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in the physics of underwater acoustics and 1 in basic electronic test equipment (7/86).

NV-1715-0426

SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance

(Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance)

(Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance (Enlisted))

Course Number: A-193-0032.

Location: Submarine Base, New London, Groton, CT.

Length: 19-25 weeks (570-750 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train electronics technicians to operate, evaluate, and maintain the Mk 3 Mod 6 ship's inertial navigation system.

Instruction: This is a pipeline course that is composed of a number of courses. See A-102-0168 (NV-1715-1476) and A-193-0357 (NV-1715-1461) for specific information.

Credit Recommendation: Please refer to the individual exhibits noted above for credit recommendation (3/81).

NV-1715-0443

Terrier Weapons System Mk 76 Mod 9

(Terrier Weapons System Missile Fire Control System (MFCS) Mk 76)

Course Number: A-121-0473.

Location: Service Schools Command, Mare Island, Vallejo, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 10-11 weeks (300-440 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To train senior petty officers to supervise Terrier missile weapons systems technical operations.

Instruction: Lectures and practical exercises cover the operation of Terrier missile weapons systems, including basic systems operation and equipment, target detection, missile selection, and WDE tracking; FCS assignment and target tracking; fire control problem computation using computers; missile firing and guidance; data reduction; and test and alignment procedures.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/83).

NV-1715-0445

AN/BRQ-1, AN/WYQ-1 Operator

(AN/BRD-7, AN/WYQ-1, AN/BRQ-1 Basic Operator, Class C1)

Course Number: A-233-0029.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT.

Length: 3 weeks (90-118 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train an individual to operate a surveillance receiver and digital display unit.

Instruction: Course trains the individual to operate three pieces of equipment (two receivers and a display unit) and includes basic theory, physical description and function of all controls, indicators, displays, and interface connections.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/89).

NV-1715-0447

Mardan Computer Theory and Maintenance 1

Course Number: A-193-0288.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT; Fleet Ballistic Missile Submarine Training Center, Charleston, SC; Trident Training Facility, Bangor, Bremerton, WA.

Length: 2-3 weeks (60-128 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide theory of operation of specific military equipment and to train in fault isolation and repair of the equipment.

Instruction: Lectures and laboratories cover the theory of equipment operation, including power supply sequencing, relay logic, and alarm systems and in fault isolation and repair of the equipment to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems troubleshooting and maintenance (10/89).

NV-1715-0448

Mardan Computer Theory and Maintenance 2

Course Number: *Version 1:* A-193-0289. *Version 2:* A-193-0289.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, WA; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: *Version 1:* 2 weeks (69 hours). *Version 2:* 1-2 weeks (60-64 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will use the theory of operation of specific equipment to perform fault isolation and repairs on the equipment. *Version 2:* Upon completion of the course, the student will use the theory of operation of specific equipment to perform fault isolation and repairs on the equipment.

Instruction: *Version 1:* Lectures and laboratories cover monitoring circuits, relay logic synchro loops, and digital motor control closed loops; the use of diagnostics to determine fault isolation; and the repair of specific equipment. Some understanding of basic computer circuits required. *Version 2:* Lectures and laboratories cover monitoring circuits, relay logic synchro loops, and digital motor control closed loops; the use of diagnostics to determine fault isolation; and the repair of specific equipment.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical troubleshooting and repair (4/96). *Version 2:* In the vocational certificate category, 1 semester hour in electromechanical repair (10/89).

NV-1715-0450

A-7A/B Integrated Avionics Weapons System Technician Organizational Maintenance

Course Number: C-102-3794.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 3 weeks (104 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train fleet maintenance personnel to troubleshoot and perform operational checks on the A-7A/B aircraft weapons system.

Instruction: Lectures and practical exercises cover troubleshooting and operational checks on the A-7A/B aircraft weapons system, including ordnance familiarization, associated equipment and weaponry, integrated flight instruments system components and circuitry, gyroscopic principles, air data equipment, delivery and release systems, weapons release computer, and associated radar set components and operation.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/82).

NV-1715-0462

P-3 PB-20N Autopilot System Intermediate Maintenance

Course Number: C-602-3532.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide electrical maintenance personnel with training in intermediate maintenance, circuit analysis, operation, and test procedures for a specific flight control system.

Instruction: Lectures and practical exercises provide the student with sufficient knowledge/theory to operate and troubleshoot an automatic flight control system, including power supplies, amplifiers, bench testing, and troubleshooting techniques.

Credit Recommendation: In the vocational certificate category, 2 semester hours in avionics laboratory (7/81).

NV-1715-0469

Electronic Surveillance Measures (ESM)
AN/WLR-8(V)2 Combined Operator
Maintenance

Course Number: A-233-0040.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 10-12 weeks (304-420 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train technicians with a basic computer background in the theory of operation and maintenance of a complex multichannel digital receiver and digital data processor computer system.

Instruction: Course includes analog-to-digital and digital-to-analog conversion, multiplexing, demultiplexing, ALU units, RF digital tuner control circuits, and displays. The student learns to perform fault isolation, alignment, adjustment, and calibration and to make repairs at the component level. Course includes diagnostic and maintenance procedures for small computers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital computer maintenance and repair practices and laboratory and 1 in electronics maintenance and repair laboratory (3/81); in the upper-division baccalaureate category, 1 semester hour in computer organization (3/81).

NV-1715-0491

AN/BPS-15 Radar Combined Maintenance

Course Number: A-102-0199.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Facility, Charleston, SC.

Length: 3-4 weeks (90-120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide instruction on the operation and maintenance of an installed submarine radar system.

Instruction: Lectures and laboratory exercises cover the operation of a radar system, including the antenna hydraulic system, radar receiver, and the signal display unit from a block diagram and signal flow approach. Preventive and corrective maintenance, alignment adjustments, and calibration procedures are covered as well as test procedures for microwave cubes and their replacement.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1715-0493

AN/APN-171(V) Radar Altimeter (Low
Level) and AN/APQ-107 Radar
Altimeter Warning Set Intermediate
Maintenance
(AN/APN-171(V) Radar Altimeter (Low
Level) Intermediate Maintenance)

Course Number: C-102-3050.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 3 weeks (96-104 hours).

Exhibit Dates: 1/90–1/97.

Objectives: To train maintenance personnel to operate and maintain the AN/APN-171(V) radar altimeter system.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, maintain, and troubleshoot an aircraft radar altimeter and altimeter warning system to the circuit board level. The student uses a differential voltmeter, power meter, standing wave indicator, RF signal generator, and phase angle meter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic instrumentation and 1 in electronics troubleshooting laboratory (4/85).

NV-1715-0496

Atmosphere Analyzer Central Atmosphere
Monitoring System (CAMS) Mk 1

Course Number: A-623-0048.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Submarine Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 3 weeks (90-99 hours).

Exhibit Dates: 1/90–12/95.

Objectives: To provide theory and skills necessary to perform normal/casualty operational tasks and preventative/corrective maintenance on an atmosphere analyzer.

Instruction: Course is largely descriptive, involving operation and maintenance of the above-mentioned equipment. Course includes readout module, diagnostic module, coanalyzer module, MS analyzer model, low-voltage power supply module, ion pump power supply module, and an AC control module.

Credit Recommendation: In the vocational certificate category, 2 semester hours in environmental laboratory techniques (11/85).

NV-1715-0501

Electronic Surveillance Measures (ESM)
AN/WLR-6 Combined Maintenance

Course Number: A-233-0041.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 16-21 weeks (480-800 hours).

Exhibit Dates: 1/90–3/91.

Objectives: Course is designed to train technicians to operate and maintain a complex manually operated multichannel signal reception and processor radio receiver that can handle any type of transmitted signal.

Instruction: Through lectures and laboratories, the student learns the functional description, block-diagram signal flow, and operating modes of the ESM system. Subjects covered are a multiple antenna system and its coupling and antenna switching circuits; a VHF panoramic manual receiver and its subsystems; basic digital concepts using resister diode logic and transistor flip-flops; knowledge and application of db and noise figure, video and audio amplifiers, video and audio tape recorders, video and audio distribution panels, power supplies, power distribution system, characteristics and operation of traveling wave tubes and klystrons, UHF preamplifiers relay switching circuits, signal spectrum display unit, and FM multiplexers and demultiplexers. Student learns to calibrate, align, adjust, and do performance tests on all this equipment. Course includes basic digital concepts, including number systems, codes, and flip-flop operation using discrete logic circuits.

Credit Recommendation: In the vocational certificate category, 10 semester hours in electronics (3/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in general technical elective for non -electronic technology students and 2 in electronic maintenance and repair laboratory (3/81).

NV-1715-0502

AN/BQH-5(V) Series Combined Maintenance
(Data Gathering Set AN/BQH-5(V)2 Basic
Maintenance)

Course Number: A-130-0176.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 2-3 weeks (60-84 hours).

Exhibit Dates: 1/90–Present.

Objectives: Course provides system-level approach to maintenance of data gathering equipment.

Instruction: Course includes familiarization with the FR 1300 tape recorder and console as well as other highly specialized pieces of equipment. Most of the course is laboratory oriented.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (10/89).

NV-1715-0511

AN/APX-7 Radar Recognition System
Intermediate Maintenance
(P-3 AN/APX-7 Radar Recognition System
Intermediate Maintenance)

Course Number: C-102-3538.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel to operate and maintain the AN/APX-7 radar recognition system.

Instruction: Lectures and practical exercises cover the operation and maintenance of the AN/APX-7 radar recognition system, including functional block diagrams, circuit analysis, transmitting system, subassemblies, video systems power monitor and supplies, set control, and troubleshooting and alignment procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (7/81).

NV-1715-0512

Tartar Radar AN/SPG-51C Digital

Course Number: A-104-0119; A-104-0136.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 23-25 weeks (800-920 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train fire control technicians to operate and maintain the AN/SPG-51C radar set and associated equipment.

Instruction: Lectures and practical exercises cover the maintenance and operation of the AN/SPG-51C radar set, including use of specialized test equipment; AC and DC power supplies; digital theory; block diagrams of track radar components; various circuits; data flow; missile guidance; signal comparator; and alignment, calibration, troubleshooting, and repair techniques. The course is heavily weighted toward troubleshooting and repair techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic troubleshooting techniques (6/89).

NV-1715-0513

AN/APQ-126(V) Radar Set Special Support
Equipment Intermediate Maintenance
(AN/APQ-126 Radar Set Special Support
Equipment Intermediate Maintenance)

Course Number: C-102-3797.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train radar maintenance personnel to operate and maintain the AN/APQ-126 radar set special support equipment at the intermediate level.

Instruction: Lectures and practical exercises cover the operation and maintenance of the AN/APQ-126 radar set special support equipment, including circuit analysis, the interconnecting power supply; control indicator; relay, assembly, and adapter boxes; circuit analysis of various generators; circuit analysis of module, antenna/receiver, and antenna boresight test sets; and alignment, troubleshooting, and checkout procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic maintenance theory and 2 in electronics maintenance laboratory (3/82).

NV-1715-0529

AN/ASM-398 Projected Map Display Set
(PMDS) Intermediate Maintenance

Course Number: C-150-3783.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train electronics maintenance personnel to service AN/ASM-398 projected map display sets.

Instruction: Lectures cover AN/ASM-398 projected map display set servicing, including analog and digital circuit theory and operation, basic logic theory and microcircuitry, test programming description and procedures, self-test fault isolation, test set calibration, and associated test equipment operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital circuit analysis or 1 semester hour in digital systems for electrical engineering majors (3/82).

NV-1715-0533

P-3C Communication/Navigation
Organizational Maintenance

Course Number: C-102-3591.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 8-9 weeks (320-360 hours).

Exhibit Dates: 1/90–4/90.

Objectives: After 4/90 see NV-1715-1577. To train fleet maintenance personnel who have had previous training in basic electronics to operate, test, and troubleshoot the P-3C communications and navigation systems.

Instruction: Lectures and practical exercises cover the operation, testing, and troubleshooting of the P-3C communications and navigation radar, radar altimeters, radio navigation systems, teletype, teleprinter, digital data link, and computer general information.

Credit Recommendation: In the vocational certificate category, 6 semester hours in communications and systems maintenance (7/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in avionics technology (7/81).

NV-1715-0534

AN/ASN-50 Attitude Heading Reference
System Intermediate Maintenance

Course Number: C-602-3010.

Location: Air Maintenance Training Detachment, Key West, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Norfolk, VA; Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Imperial Beach, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 2 weeks (56-80 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train electrical maintenance personnel to operate and maintain the attitude heading reference system.

Instruction: Lectures and practical exercises cover the operation and maintenance of the attitude heading reference system, including special and general test equipment, component operation, and testing and repair procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics on the basis of institutional evaluation (7/81).

NV-1715-0539

AN/AQM-18(V)1 Thru (V)5 Sonar Computer
Recorder Group Test Central and
AN/AQM-20 Computer Group Power
Systems Test Set Intermediate
Maintenance

Course Number: C-102-3111.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train aviation maintenance personnel in the operation, maintenance, and repair of a sonar computer recorder group test central and the computer group power system test set at the intermediate level.

Instruction: Lectures and practical exercises cover the operation, maintenance, and repair of a sonar computer recorder test set and its related computer group power system test set, including circuit and signal flow analysis, individual subsystem analysis, fault isolation and repair procedures utilizing standard electronic equipment, and computer-related automatic testing procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronics maintenance procedures and 2 in electronics maintenance laboratory for non—electrical engineering students (3/82).

NV-1715-0545

RADIAC Instrument Maintenance

Course Number: A-670-0020.

Location: Service School Command, Treasure Island, San Francisco, CA.

Length: 4-5 weeks (180-190 hours).

Exhibit Dates: 1/90–11/91.

Objectives: After 5/96 see NV-1715-1860. To train enlisted personnel to operate and maintain RADIAC instruments.

Instruction: Lectures and practical exercises cover operation, maintenance, and repair of radiation related equipment, including dosage hazards; radiological monitoring and decontamination; basic nuclear physics; radiac computer indicator, detector, and calibrator maintenance; radioactive sources; leak testing; Atomic Energy Commission license requirements; electronics review; and standard test equipment operation.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radiation equipment maintenance (11/81); in the lower-division baccalaureate/associate degree category, 2 semester hours in radiation equipment maintenance and credit in physics laboratory on the basis of institutional evaluation (11/81).

NV-1715-0550

AN/AQS-13B Sonar Intermediate
Maintenance

Course Number: C-130-3399.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide training for avionics personnel in the maintenance and repair of a sonar detecting ranging set and a test control set.

Instruction: Lectures and practical exercises cover the operation and maintenance of a sonar system and its related test set, including familiarization with basic sonar operation, logic gates, decoders, block-diagram analysis, power supplies and distribution, timer, data, mixers, CRT beam positioning, audio, and integrated circuit analysis and troubleshooting.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electronics maintenance laboratory (3/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in electronic circuit analysis and 1 in electronics laboratory for non—electrical engineering students (3/82).

NV-1715-0558

RO-358/AQS-13A Multipurpose Recorder Intermediate Maintenance

Course Number: C-102-3401.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train technicians in the intermediate maintenance of a multipurpose chart recorder, including theory, maintenance, and troubleshooting.

Instruction: Lectures and practical exercises cover the operation, maintenance, and repair of a multipurpose chart recorder, including the unregulated and regulated power supply description, stylus and chart drive circuits, performance standards, and alignment procedures. Laboratory includes troubleshooting defective equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic instrumentation or 1 in electronic troubleshooting laboratory for non—electrical engineering students (3/82).

NV-1715-0559

AN/ASQ-81(V) Magnetic Anomaly Detection Set Intermediate Maintenance

Course Number: C-102-3109.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–8/91.

Objectives: After 8/91 see NV-1715-1581. To train maintenance personnel in the operation, troubleshooting and repair of a magnetic anomaly detection set at an intermediate level.

Instruction: Lectures and practical exercises cover the operation, troubleshooting, and intermediate repair of a magnetic anomaly detection set, including basic magnetic theory, troubleshooting procedures to the bad element level, and block-diagram analysis.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics maintenance laboratory (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical motor controls laboratory for non—electrical engineering students (3/82).

NV-1715-0565

Electricity, Electronics, and Hydraulics, Class AP

Course Number: A-041-0012.

Location: Service School Command, Great Lakes, IL.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To provide enlisted personnel with basic training in the maintenance of missile-launching and gun systems.

Instruction: Lectures and practical exercises cover the theory and practice of AC/DC motors and generators; solid state power supplies; number systems, logic gates, digital arithmetic, circuits, counters, and registers; synchros and servos; and hydraulic controls.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical controls and 2 in digital logic (1/82).

NV-1715-0567

AN/AQA-7(V)6/7 Sonar Computer Recorder Group Difference Data Intermediate Maintenance

Course Number: C-130-3571.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 5 weeks (240 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train experienced technicians in the maintenance and repair of a particular piece of antisubmarine warfare equipment at the intermediate level.

Instruction: Lectures and practical exercises cover the operation; troubleshooting; and repair of a particular piece of antisubmarine warfare equipment, including differences from other versions of the equipment, built-in test procedures, circuit analysis and fault isolation, power supply repair, signal flow analysis, and computer fault isolation and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital system maintenance and 2 in electronics laboratory for non—electrical engineering students (3/82).

NV-1715-0571

Strike Armament Intermediate Maintenance Repair

Course Number: C-646-3118.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 8 weeks (299 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train enlisted personnel to inspect, test, assemble, and repair aviation armament equipment.

Instruction: Lectures and practical exercises cover the inspection, testing, and repair of assembly aviation armament equipment (VA-VF type), including the 3M system, operation of airborne missile launchers, suspension and releasing equipment analysis, rocket and flare dispensers, specific aircraft gun components and operation, and troubleshooting procedures.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (4/85).

NV-1715-0572

Tartar Officer Advanced
(Tartar Weapons Officer)

Course Number: A-2F-0037.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4-6 weeks (160-179 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train officers with previous gunnery experience to operate and maintain missile equipment on DDG-2 ships.

Instruction: Lectures and practical exercises cover the operation and maintenance of missile equipment on DDG-2 ships, including Tartar overview, search radar, specific radar equipment, cooling and dry air systems, system interface, target detection and identification, selection and tracking, controls and indicators for the master control panel, target evaluation, air ready mode, designation modes, FCS acquisition-to-track sequences, specific track modes, launching system, firing circuits, data flow, logistics, and administration procedures.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (6/89).

NV-1715-0576

Poseidon Missile Technician Conversion (A-2/A-3 to C-3)

Course Number: A-121-0139.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 12 weeks (400 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To train Polaris missile technicians to maintain and test Poseidon missiles.

Instruction: Lectures and laboratory exercises cover the maintenance and repair of the Poseidon including a review of hydraulic, pneumatic, electromechanical, and hydraulic launch and support systems. The Poseidon missile and its accompanying computer is studied in depth with troubleshooting down to the module level.

Credit Recommendation: In the vocational certificate category, 1 semester hour in hydraulics (11/83); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical maintenance and 3 in computer/control systems troubleshooting (11/83).

NV-1715-0584

AN/APN-154(V) Radar Beacon Intermediate Maintenance

Course Number: C-102-3031.

Location: Air Maintenance Training Detachment, El Toro, CA; Air Maintenance Training Detachment, Lemoore, CA; Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA; Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Cherry Point, NC; Air Maintenance Training Detachment, Miramar, San Diego, CA.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain the AN/APN-154(V) radar beacon at the intermediate level and to use associated test equipment.

Instruction: Lectures and practical exercises in the maintenance of the radar beacon and the use of associated test equipment, including controls and indicators, block diagrams and signal flow, component characteristics, electrical characteristics, and alignment and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in aviation electronic instrumentation laboratory for non—electrical engineering majors (3/82).

NV-1715-0617

A-7 AN/ASW-26/30 Automatic Flight Control System Intermediate Maintenance

Course Number: C-602-3782.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train fleet maintenance personnel who have backgrounds in A-7 aircraft systems to operate, test, troubleshoot, and maintain specific automatic flight control systems equipment at the intermediate level.

Instruction: Lectures and practical exercises in the operation, testing, troubleshooting, and maintenance of the automatic flight control systems, including component theory, various module analyses, circuit analysis, modes of operation, yaw stabilization and control augmentation, trim theory, and specific component testing procedures.

Credit Recommendation: In the vocational certificate category, 2 semester hours in autopilot electronics maintenance (3/82).

NV-1715-0640

P-3C Sensor Station Three System
Organizational Maintenance
(P-3C Sensor Station Three (Radar/Display)Technician Organization Maintenance)

Course Number: C-102-3593.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train fleet maintenance personnel to operate and maintain the radar/display systems at the block-diagram level.

Instruction: Lectures and practical exercises cover the operation and maintenance of P-3C Sensor Station Three radar/display systems, including specific equipment components, block diagrams, trouble analysis and adjustment, radar and IFF systems, and a magnetic anomaly detection system.

Credit Recommendation: In the vocational certificate category, 6 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1715-0652

Gunner's Mate, Class A1, Phase I

Course Number: A-041-0010.

Location: Service School Command, Great Lakes, IL.

Length: 5 weeks (175 hours).

Exhibit Dates: 1/90–3/92.

Objectives: After 3/92 see NV-1715-1712. To train enlisted personnel to operate and maintain gun mount and missile launching systems.

Instruction: Lectures and exercises in hand tools, ordnance identification, missile systems, and small arms.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/82).

NV-1715-0655

3"/50 Rapid Fire Twin Mount Power Drive and
Gun Maintenance
(3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35))

Course Number: J-113-1202.

Location: Fleet Combat Direction Systems Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (105-120 hours).

Exhibit Dates: 1/90–2/91.

Objectives: To train gunnery personnel to test, adjust, and maintain the 3"/50 caliber rapid fire gun mount and control system.

Instruction: Lectures and practical exercises cover the testing, adjustment, and maintenance of the 3"/50 caliber rapid fire gun mount, including gun and motor field control circuits, parallax system operation, elevation and train receiver regulators, amplifier cabinet components, gun mechanism, loader drive operation, main cam shaft operation; feeding and shifting mechanism, timing, brake system, and lubrication procedures.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (9/84).

NV-1715-0658

Terrier Weapons System Mk 76 Mod 8
(Terrier Weapons Systems with Digital Fire Control Systems (MFCS Mk 76-6/AFCS))

Course Number: A-121-0180.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 10-11 weeks (400-470 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To train enlisted personnel to operate and maintain the Terrier digital fire control weapons system and to supervise its operation, maintenance, and testing.

Instruction: Lectures and practical exercises cover Terrier weapons system introduction, ship sensors and search radars including three-dimensional ones, fire control systems including gunfire and underwater fire, power distribution and control circuits, tactical data systems, weapons direction system, guided missile fire control system data flow and interface, launching system and Terrier missile, and weapons system testing and alignment procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic troubleshooting procedures (11/83).

NV-1715-0662

Model 28 Automatic Send Receive Teletype
Maintenance

Course Number: A-160-0023.

Location: Teletype Maintenance Class C School, San Diego, CA; Teletype Maintenance Class C School, Norfolk, VA; Teletype Maintenance Class C School, Pearl Harbor, HI.

Length: 9-10 weeks (270-328 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To train personnel to install, maintain, and repair Mod 28 automatic send and receive teletypes and to implement a planned maintenance system.

Instruction: Lectures and practical exercises cover the installation, maintenance, and repair of Mod 28 automatic send and receive teletypes and in the implementation of maintenance data collection systems, including introductions to AN/UGC-6K, automatic teletype, keyboard, perforator, reperforator, and transmitter distributor; operation of electrical components; troubleshooting of the AN/UGC-6K; introduction to the AN/UGC-20 and to various pieces of teletype equipment; and introduction to low-level keying.

Credit Recommendation: In the vocational certificate category, 6 semester hours in teletypewriter maintenance (9/83); in the lower-division baccalaureate/associate degree category, 3 semester hours as an elective in electrical technology, mechanical technology, or electromechanical technology (9/83).

NV-1715-0663

Teletype Maintenance, Class C, Low Level
Keying Teletype Maintenance

Course Number: A-160-0053; A-160-0052.

Location: Service School Command, Norfolk, VA; Fleet Training Center, Pearl Harbor, HI; Service School Command, San Diego, CA.

Length: 3 weeks (105 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train enlisted personnel to install low-level modification kits and to adjust, maintain, and repair the Mod 28 teletypewriter.

Instruction: Lectures and practical exercises cover the installation, adjustment, maintenance, and repair of Mod 28 teletypewriter equipment modified for low-level keying, including electrical orientation, semiconductor fundamentals, radio frequency and electromagnetic interference, purpose and construction of MK-1088/UG modification kit, modes of operation, circuit symbols, electrical service assemblies and options, test equipment, circuit card analysis, modification kit installation, adjustments, converter, repair, and troubleshooting.

Credit Recommendation: In the vocational certificate category, 3 semester hours in teletype maintenance (9/83); in the lower-division baccalaureate/associate degree category, 2 semester hours as an elective in mechanical, electrical, or electromechanical technology (9/83).

NV-1715-0666

TT-264/AG Teletypewriter Group
Intermediate Maintenance

Course Number: C-102-3550.

Location: Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel to repair specific teletypewriters.

Instruction: The course includes instruction in the alignment, troubleshooting, and repair of the teletypewriter by using schematic circuits, block diagrams, and standard electronic maintenance equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance procedures (7/81).

NV-1715-0672

E-2A AN/APS-96 Search Radar Intermediate
Maintenance

Course Number: C-102-3471.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Miramar, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train maintenance personnel to maintain the search radar set at the intermediate and organizational levels.

Instruction: Lectures and practical exercises cover the intermediate maintenance of the AN/APS-96 search radar, including transmit operation, receive operation, miscellaneous equipment functional description, introduction to pulse compression techniques, functional theory, trigger timer and synchronizer theory, theory of operation of specific delay line, radio frequency oscillator, radar receiver, radar modulator, and trigger pulse amplifier, power supplies, and control circuits, system emergency mode, and test operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar circuits and systems and 1 in radar laboratory (5/85).

NV-1715-0695

P-3 AN/APS-80 Search Radar System Maintenance

Course Number: C-102-3536.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 3 weeks (96-136 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train experienced technicians to maintain the search radar at the module and component levels.

Instruction: Lectures and practical exercises cover maintenance and alignment procedures for the AN/APS-80 search radar system, including introduction to the P-3 search radar system, dual radar installation in the P-3; antenna azimuth and tilt systems, dual installation switching arrangement, P-3 radar system alignment, modulator power supply, electronic synchronizer, AC power distribution, and TR tube and associated circuitry. Course includes the radar magnetron and DC power distribution.

Credit Recommendation: In the vocational certificate category, 1 semester hour in basic radar systems and 1 in radar system laboratory (7/81).

NV-1715-0698

Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance

(Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance)

Course Number: C-602-3228.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train aviation support equipment technicians to perform intermediate maintenance on the systems of the NC-10B and the NC-10B/C electric power plant.

Instruction: Lectures and practical exercises cover the maintenance of the specific electric power plants, including mechanical systems, maintenance, electrical systems, component removal and replacement, and troubleshooting and adjustments.

Credit Recommendation: In the vocational certificate category, 1 semester hour in AC/DC generator operation and repair (3/82).

NV-1715-0700

Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance

Course Number: C-602-3226.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train aviation support equipment technicians to perform maintenance on the NC-2A mobile electric power plant.

Instruction: Lectures and practical exercises cover the maintenance of the specific mobile electric power plant, including introduction to the NC-2A; NC-2A familiarization, NC-2A electrical description and theory of operation, drive motor operation and regulation, line troubleshooting, bench testing, repairing, and adjusting.

Credit Recommendation: In the vocational certificate category, 1 semester hour in AC/DC generator operation and repair (7/92).

NV-1715-0710

AN/ARC-51, 51A, 51AX, 51B, RT-793/ASQ and RT-1010/ASQ-140 Communication Systems Intermediate Maintenance

(AN/ARC-51, 51A and 51AX Communication Systems Intermediate Maintenance)

(P-3 AN/ARC-51A Communication Systems Maintenance, No. 22)

Course Number: C-102-3014.

Location: Air Maintenance Training Detachment, Imperial Beach, CA; Air Maintenance Training Detachment, Key West, FL; Air Maintenance Training Detachment, Cherry Point, NC; Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, Cp. Pendleton, CA; Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA; Air Maintenance Training Detachment, Santa Ana, CA; Air Maintenance Training Detachment, New River, NC; Air Maintenance Training Detachment, Kingsville, TX; Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Patuxent River, MD.

Length: 2 weeks (80-96 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train enlisted personnel to maintain, operate, and troubleshoot communication systems.

Instruction: Lectures and practical exercises cover the maintenance, operation, and troubleshooting of the AN/ARC-51, 51A, and 51AX communication systems including block-diagram analysis of transceivers. Specific topics include frequency synthesis, AC/DC power supplies, RF and power amplifiers, transmitters, and related circuitry.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (7/81).

NV-1715-0726

U-1700 Maintenance

Course Number: A-150-0103.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train data systems technicians in the operation and maintenance of a UNIVAC 1701 keypunch unit.

Instruction: Lectures and practical exercises cover the theory of operation and the maintenance procedures for a UNIVAC card keypunch unit, including the mechanical systems, the keyboard, the core memory unit, the block diagrams, and the troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in computer I/O equipment operation and repair (11/81).

NV-1715-0747

SH-3A/D AN/AQS-13A Sonar Intermediate Maintenance

Course Number: C-130-3396.

Location: Air Maintenance Training Detachment, Imperial Beach, CA; Air Maintenance Training Detachment, Quonset Point, RI; Air Maintenance Training Detachment, Jacksonville, FL; Air Maintenance Training Detachment, North Island, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train fleet maintenance personnel in the maintenance of a sonar system.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain components of a specific sonar system at the board or component level and will conduct minimum performance testing and alignment. Course includes system timers, transmitter/receiver, power supply circuit, transducer circuit, and underwater voice communication circuit.

Credit Recommendation: In the vocational certificate category, 3 semester hours in marine electronics repair and maintenance and 1 in electronics laboratory (4/85).

NV-1715-0749

AN/SPS-29E Radar Set Maintenance (Electronics Technician, Class C1)

Course Number: A-104-0151.

Location: Service School Command, San Diego, CA.

Length: 9 weeks (272-360 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide the skills and knowledge necessary to maintain a radar set.

Instruction: Topics include operation and maintenance of the AN/SPS-29E radar set and the AN/SPA-62 receiver, AC and DC distribution, cooling and air pressurization function, monitoring function, trigger generating function, transmitter group, antenna function, normal realignment group, canceller, and integrator groups.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in circuit and pneumatic system troubleshooting (5/82).

NV-1715-0754

Electronics Technician, Class C7 (Electronics Technician, Class B)

Course Number: A-100-0017; A-100-0016.

Location: Electronics Technician, Class B School, Treasure Island, San Francisco, CA; Electronics Technician, Class B School, Great Lakes, IL; Service School Command, San Diego, CA.

Length: 28 weeks (1120 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide the basic theory necessary in the training of electronics technicians.

Instruction: Lectures and practical exercises cover basic mathematics, including simple right angle trigonometry, logarithms, complex numbers, and Boolean algebra. Technical topics include AC/DC circuit theory and theorems, transients, solid state devices, signal and power amplifiers, power supplies, communication circuits, transmission lines, antennas, microwave devices and radar systems, navigation systems, digital devices, computer fundamentals, soldering techniques, and training in supervision and management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical algebra, 6 in AC/DC circuit analysis, 6 in electronic devices and systems, 1 in operational amplifier theory, 3 in electronic communications, 3 in radar and microwave theory, 4 in digital and computer fundamentals, and 1 in soldering laboratory (5/82).

NV-1715-0770

ASROC Launching Group Mk 16
Maintenance, Class C1
(ASROC Launching Group Mk 16)

Course Number: A-121-0010.

Location: Service School Command, Great Lakes, IL.

Length: 13 weeks (520 hours).

Exhibit Dates: 1/90–6/93.

Objectives: To provide gunner's mates with training in the maintenance, adjustment, and operation of the Launching Group Mk 16.

Instruction: Lectures and practical exercises cover the ASROC weapon system, launching group Mk 16, administration and supply, stand Mk 107 and carriage Mk 7, relay transmitters, power train, power drive amplifier, elevation power drive, launcher and missile simulator and checkout, hydraulic and electronic systems, and hydraulic and pneumatic devices.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-1715-0773

AN/ARC-52 Radio Set Intermediate
Maintenance

Course Number: C-102-3019.

Location: Air Maintenance Training Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To provide maintenance personnel with the technical knowledge necessary to maintain a specific military radio set.

Instruction: Lectures and practical exercises cover the operation of the AN/ARC-52 radio receiver and transmitter with instruction in diagnosis, troubleshooting, maintenance, and repair of specific subsections of the equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in aviation radio/transceiver repair or 1 in aviation radio communications repair (3/82).

NV-1715-0774

AN/AQA-7(V) 1, 2 and 3 Sonar Computer
Recorder Group and AN/ASA-76
Generator-Transmitter Group
Intermediate Maintenance

Course Number: C-102-3075.

Location: Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train experienced personnel in the maintenance and repair procedures for a sonar computer-recorder and its specialized test equipment at the component level.

Instruction: Lectures and practical exercises cover the theory, operation, and maintenance of a sonar computer-recorder, including demultiplexer, frequency, multiplier storer, spectrum analyzer-quantizer, and digital memory units. Course includes fault localization, fault isolation, component replacement, disassembly, interchange, reassembly, alignment/adjustment, safety precautions, and checkout procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronics laboratory and 3 in communications electronics (7/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in digital/analog system operations (7/81).

NV-1715-0776

E-2B Electronic Systems Organizational
Maintenance

Course Number: C-102-3479.

Location: Air Maintenance Training Detachment, North Island, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–1/96.

Objectives: To provide maintenance technicians with overall knowledge of a specialized electronics system.

Instruction: Lectures and laboratory cover organizational maintenance of an integrated system incorporating communications, navigation, detection, data link, and computer and display equipment. The student will understand electronic and digital circuit operation and perform troubleshooting down to the functional unit level.

Credit Recommendation: In the vocational certificate category, 3 semester hours in integrated electronic/computer systems operation (1/86); in the lower-division baccalaureate/associate degree category, 1 semester hour in digital circuits, 1 in communications/radar circuits, and 1 in electronic circuits (1/86).

NV-1715-0778

Basic Point Defense Surface Missile System

Course Number: A-121-0122.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 14 weeks (560 hours).

Exhibit Dates: 1/90–6/90.

Objectives: To train personnel in the operation, maintenance, troubleshooting, and repair of a missile fire control system.

Instruction: Lectures and practical exercises cover the functional understanding of a missile fire control and launcher system. Analysis of circuit diagrams with a general review of amplitude modulation and signal tracing to isolate system faults using test equipment and schematics.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electronic test and maintenance (11/81); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical test and maintenance (11/81).

NV-1715-0780

Electronic Warfare Electronic Support
Measures System Maintenance, Class
A
(Electronic Warfare Technician AN/WLR-1
Electronic Support Measures System
Maintenance)
(Electronic Warfare Technician, Class A (A-2), Electronic Support Measures System Maintenance)

Course Number: A-102-0221; A-102-0094.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7-12 weeks (280-480 hours).

Exhibit Dates: 1/90–12/97.

Objectives: To provide electronics technicians with instruction in the operation, maintenance, and repair of electronic countermeasures systems.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and operation of the system; calibrate, align and make performance tests on the equipment; and troubleshoot and repair receivers, omnidirectional antenna, video system, mechanical components, power supplies, signal generators, interconnects, servos and resolvers, tuners, and other signal processing circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in UHF receiver systems and 3 in troubleshooting and maintenance (7/87).

NV-1715-0788

Torpedo Mk 37 Mods 2 and 3 Test Equipment
Intermediate Maintenance
(Torpedo Mk 37 Mods 0, 2, and 3 Test
Equipment Intermediate Maintenance)

Course Number: A-123-0134.

Location: Service School Command, Orlando, FL.

Length: 7 weeks (200-210 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train technicians in test procedures for torpedo test equipment.

Instruction: Lectures and practical exercises cover the use, maintenance, and troubleshooting of torpedo test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting (4/83).

NV-1715-0789

Torpedo Mk 37 Mods 2 and 3 Intermediate
Maintenance

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(Torpedo Mk 37 Mods 0, 2, and 3 Intermediate Maintenance)

Course Number: A-123-0133.

Location: Service School Command, Orlando, FL.

Length: 14 weeks (424 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train personnel in the maintenance of torpedo control systems.

Instruction: Lectures and practical training cover the maintenance of electrical control systems for torpedoes including troubleshooting procedures and functions of basic control system components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in system troubleshooting or as a technical elective (4/83).

NV-1715-0790

AN/SPS-43A/37A Radar Set Maintenance
(Electronics Technician, Class C1)
(AN/SPA-37/37A Radar Sets, AN/SPA-63 Countermeasures Receiving Group, and AN/SPS-43/43A Radar Sets Differences)

Course Number: A-104-0149.

Location: Service School Command, San Diego, CA.

Length: 11 weeks (330-440 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train electronics technicians in radar and electronic countermeasures to operate, maintain, and calibrate specified radar sets and the AN/SPA-63 countermeasures receiver.

Instruction: Lectures and practical exercises on the operation, maintenance and calibration of the radar sets and the receiver. Course includes system parameters, power supplies and distribution, pulse generators and exciters, modulators and power amplifiers, power monitor and VSWR circuits, antenna and auto-tune system, receiver circuits, test equipment use, generators, frequency counters, and oscilloscopes and DVMs.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems, 2 in radar systems laboratory, and 1 in electronic troubleshooting (5/82).

NV-1715-0794

SUBROC Missile Mk 28 Mod 1 Intermediate Maintenance

Course Number: A-121-0144.

Location: Service School Command, Orlando, FL.

Length: 7-12 weeks (326-420 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train personnel to test, assemble, disassemble, and perform intermediate maintenance on the SUBROC guided missile.

Instruction: Lectures and practical exercises cover identification and assembly of parts, including mechanical handling, installation of fittings, and test monitoring.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/83).

NV-1715-0795

SUBROC Missile Mk 28 Mod 1 Test Equipment Intermediate Maintenance
(SUBROC Missile Mk 28 Mod 0 Test Equipment Intermediate Maintenance)

Course Number: A-121-0145.

Location: Service School Command, Orlando, FL.

Length: 20 weeks (632 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train personnel to use the circuit schematics of the SUBROC missile and to operate test equipment for trouble analysis.

Instruction: Lectures and practical exercises cover checkout and assembly of the SUBROC missile, including circuitry and circuit tracing; operation of electronic test equipment, including differential voltmeter, oscilloscope, and counter; test equipment calibration; trouble isolation; and operational checks.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic test equipment and 3 in electronic troubleshooting (4/83).

NV-1715-0797

RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance

Course Number: C-102-3094.

Location: Air Maintenance Training Group, North Island, CA; Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, El Toro, CA; Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To provide maintenance personnel with knowledge of theory of operation, testing, and system troubleshooting procedures for a military communications system.

Instruction: Lectures and practical exercises include maintenance procedures, pulse decoder circuits, block diagrams, and an introduction to receiver/transmitter theory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hour in electronics laboratory (5/85).

NV-1715-0809

AN/SPS-40B Radar Set Maintenance
(Electronics Technician, Class C1)
(AN/SPS-40B/C/D Radar Set Maintenance)

Course Number: A-104-0133.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–1/92.

Objectives: After 1/92 see NV-1715-1597. To provide the skills and knowledge necessary to operate and maintain a radar set.

Instruction: Course includes operation and maintenance of the AN/SPS-40B/C/D radar set, power control and distribution, air system, cooling system, antenna system, timing and trigger generation, frequency generation, low- and high-power transmitting group, receiver system, and test functions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in circuit and system troubleshooting (5/82).

NV-1715-0811

AN/APX-72 Series IFF Transponder System Maintenance
(AN/APX-72 Maintenance, Class C-1)

Course Number: A-102-0063.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 3 weeks (90-120 hours).

Exhibit Dates: 1/90–5/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate, diagnose, troubleshoot, and repair radar communications equipment; describe system operation; and conduct preventive maintenance on these transponder systems.

Instruction: Instruction includes lecture and laboratory. Topics include power supplies, filters, digital logic, power amplifiers, modulators, demodulators, and basic transistor circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (11/95).

NV-1715-0812

AIMS Mk 12 IFF System Maintenance
(Electronics Technician, Class C1)

Course Number: A-102-0062.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–11/91.

Objectives: After 11/91 see NV-1715-1588. To provide skills and knowledge necessary to perform preventive and corrective maintenance on the Mk 12 aircraft interrogation system.

Instruction: This course covers operation and maintenance of radar test sets, transponder systems, interrogator systems, interference blankers, and decoders. Course also includes power supplies, digital logic, signal conditioning, transmitters and receivers, displays and circuit analysis, and troubleshooting to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems, 1 in electronics systems laboratory, and 1 in electronic troubleshooting (5/82).

NV-1715-0815

Miniature Electronic Repair Program, Class F-1
(Miniature/Microminiature Electronic Repair (2M))

Course Number: A-100-0034.

Location: Fleet Mine Warfare Training Center, Charleston, SC; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, Mayport, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To provide personnel with the latest methods in disassembly, repair, and soldering of miniature printed circuits, components, terminals, circuit board laminates, and conductors.

Instruction: Practical training is offered in printed circuit board repair, terminal and connector pin soldering, microelectronic circuit soldering, microminiature circuit board repair, parts installation, and microelectronic connector pin soldering techniques. Course also includes replacement of components on microminiature single- and double-sided printed circuit boards and preventive maintenance procedures for the repair station and associated components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic maintenance and troubleshooting (5/82).

NV-1715-0829

Cryptologic Technician M, Class A3
(Cryptologic Technician Maintenance)

Course Number: A-102-0109.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 16 weeks (621 hours).

Exhibit Dates: 1/90–11/92.

Objectives: After 11/92 see NV-1715-1659. To teach basic electronic maintenance of equipment used in conjunction with cryptologic missions.

Instruction: This course provides a strong technical foundation and hands-on exercises on testing, troubleshooting, and repairing digitally tuned receivers, magnetic recorders, 8080 and 6800 microprocessor systems, and basic teletype equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital computer technology, 3 in analog and digital test equipment, and 3 in digital HF receiver systems (1/84).

NV-1715-0831

Aviation Squadron Electronic Warfare (EW) Officer, Class A2

Course Number: C-2D-3814.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (148-160 hours).

Exhibit Dates: 1/90–12/97.

Objectives: To provide formal training for the aviation officer assigned to an electronic warfare officer billet in a tactical air/antisubmarine warfare squadron.

Instruction: Topics include technology, organization, equipment, publications, weapons systems, training, and operations. Subjects include business writing, equipment operation, training development, and operational planning.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/87).

NV-1715-0836

Cryptologic Technician R, Class A3
(Cryptologic Technician Collection Branch)

Course Number: A-231-0044.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: Self-paced, 22 weeks (880 hours).

Exhibit Dates: 1/90–12/97.

Objectives: To provide basic instruction and practical application in the intercept of Morse communications.

Instruction: Course includes operation of radio receiving equipment and typewriters, basic safeguards of security, communications procedures and systems, and theory and operation of communications equipment. The course provides basic instruction and practical application in intercept of Morse communications and develops ability to copy Morse code at a speed of 18 gpm and to touch type at 25 wpm.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics or general technical subjects (7/87).

NV-1715-0847

Tartar Missile Fire Control Systems (MFCS) Mk 74 Mods 4/5/8

Course Number: A-121-0239.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 20 weeks (800 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide senior petty officers with the knowledge and techniques to coordinate and supervise planned and corrective maintenance needed on a specialized missile weapons system.

Instruction: Lectures and practical exercises cover the operational differences of the Tartar missile weapons system radar from other fire control radars and the operation of the fire control computer, including number system conversions, functional operations, and the maintenance requirements of the missile system.

Credit Recommendation: In the vocational certificate category, 3 semester hours in systems maintenance (11/81); in the lower-division baccalaureate/associate degree category, 1 semester hour in basic digital and computer fundamentals (11/81).

NV-1715-0870

DD-963 Spruance Class Destroyer Radio Communications Systems Maintenance
(Radio Communications System Maintenance for DD-963 Class Ships, Class C1)

Course Number: A-101-0096.

Location: Service School Command, San Diego, CA.

Length: 8 weeks (240-320 hours).

Exhibit Dates: 1/90–2/91.

Objectives: After 2/91 see NV-1715-1599. To train electronic technicians to operate, align, and repair a radio communications system for naval vessels.

Instruction: Lectures and laboratories cover circuit analysis and block diagrams of receivers and transmitters, logic systems, synthesizers, RF and control sections, power supplies and antennas, and use of test equipment to troubleshoot and repair the specific equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in circuit and system troubleshooting and 2 in communications systems (5/82).

NV-1715-0872

AN/USQ-64(V) Common User Digital Information Exchange System (CUDIXS) Maintenance
(Common User Digital Information Exchange System (CUDIXS) Maintenance)

Course Number: A-101-0082.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 23 weeks (920 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide the skills and knowledge to operate and maintain a data processing communications system.

Instruction: Lectures and practical exercises cover the HP2100 minicomputer system with cassette and magnetic tape loader subsystems. Course also includes subsystems for interfacing, display, and control and operation and maintenance of line printers, data recorder/reproducers, magnetic tape, and disk subsystems and terminals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in minicomputer systems, 1 in digital communications, 3 in computer peripheral maintenance, and 1 in electronic troubleshooting (5/82); in the upper-division baccalaureate category, 1 semester hour in minicomputer systems for engineering majors (5/82).

NV-1715-0875

AN/SYQ-7(V)3 Naval Modular Automated Communications Systems NAVMACS V3 Maintenance
(Naval Modular Automated Communications System (NAVMACS) A+ Maintenance)

Course Number: A-101-0089; A-101-0214.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 13-14 weeks (520-560 hours).

Exhibit Dates: 1/90–5/92.

Objectives: After 4/92 see NV-1715-1775. To provide the skills and knowledge necessary to operate and maintain a modular automated communications system.

Instruction: Course content includes an introduction to digital computers and the operation, maintenance, and troubleshooting of computer peripherals, including recorders/reproducers, line printers, data terminals, and paper tape punch readers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer architecture and machine language, 2 in computer peripherals laboratory, and 1 in electronic troubleshooting (5/82).

NV-1715-0876

AN/WSC-3 Communications Set, OE-82B/WSC-1 Antenna Group and AN/SRA-33 Antenna Coupler Group
(AN/WSC-3 Stand-Alone Maintenance)
(AN/WSC-3 Satellite Communications Set and OE-82B/WSC-1(V) Antenna Group)

Course Number: A-101-0138.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: After 5/94 see NV-1715-1776. To provide the skills and knowledge required to operate and maintain a satellite communications set and related antenna equipment.

Instruction: Theoretical and practical instruction cover equipment operation, troubleshooting, and preventive maintenance of a satellite communications set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic troubleshooting (5/82).

NV-1715-0898

Controllers and Circuit Breakers Combined Maintenance
(Circuit Breakers and Controllers)
(Controllers Circuit Breakers, Class F1)

Course Number: L-662-0013; A-662-0038.

Location: Submarine Base, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (60-62 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To provide necessary principles of circuit breakers and controllers to enable effective maintenance and repair of equipment used on submarines.

Instruction: Lectures and laboratory instruction provide training in the operation, maintenance, and fault detection for high voltage circuit breakers, motor controllers, and switch gear. Upon successful completion of the course, the student will be able to perform normal switching operations to isolate a circuit under fault conditions, connect an across-the-line starter for starting large motors, and remove and repair circuit breakers and switch gear.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electrical technology laboratory (11/85).

NV-1715-0901

Generator Regulators, Class F1

Course Number: L-662-0023.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 1-2 weeks (35-60 hours).

Exhibit Dates: 1/90–11/95.

Objectives: This is a basic course in the operation, maintenance, and troubleshooting of static regulators.

Instruction: Lectures and laboratory exercises cover the theory of static exciters and magnetic amplifiers. The course is designed to refresh learning of experienced enlisted personnel in the maintenance and repair of voltage and speed regulators at the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical engineering technology (power option) laboratory (11/85).

NV-1715-0903

Radio Direction Finder AN/BRD-6 Combined Maintenance
(Radio Direction Finder AN/BRD-6 Operational Maintenance)
(AN/BRD-6B Combined Maintenance, Class F1)

Course Number: F-101-0023; L-102-0020; A-102-0159.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To teach the theory of operation and maintenance of special military equipment.

Instruction: Course offers theory of operation of special military equipment, including antenna loops, preamps, flood detectors, RF units, IF units, power supplies, and synchro units. Students learn to perform adjustments, fault isolation, signal tracing, and repair to the component level.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics (11/85).

NV-1715-0912

Sonar Receiving Set AN/BQR-15 Combined Maintenance

Course Number: F-130-0034; A-130-0125; A-130-0238.

Location: Fleet Ballistic Missile Submarine Training Center, Charleston, SC; Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (67-80 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide theory of operation and maintenance on the specific military equipment.

Instruction: Course includes the study of the theory of operation of specialized military equipment. Student learns to troubleshoot, calibrate, adjust, maintain, and repair the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic electronic maintenance and repair laboratory (3/81).

NV-1715-0913

Navigation Satellite Receiver AN/WRN-5 Combined Maintenance
(Loran AN/WRN-5 Combined Maintenance)
(Satellite Navigation System AN/WRN-5)
(Satellite Receiver AN/WRN-5 Combined Maintenance, Class C-1)

Course Number: A-193-0054.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 3 weeks (90-117 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide the necessary skills and theory to operate, repair, and maintain a satellite receiver/computer.

Instruction: Course discusses arithmetic logic, input/output devices, analog-to-digital conversion, synchro-to-digital conversion, and phase modulation detection. More than 50 percent of the course is devoted to operational description of the equipment. Course includes discussion at the functional level of a satellite navigation receiver system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1715-0918

6L16 Oxygen Generator Electrical Technician
(Oxygen Generator Technician 6L16)

Course Number: A-623-0039.

Location: Fleet Ballistic Missile Submarine Training Center, Charleston, SC; Submarine Base, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Center, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, San Diego, CA; Submarine Training Facility, Norfolk, VA.

Length: 3 weeks (90-120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide training in the electrical maintenance of an oxygen generator.

Instruction: Approximately one-third of the course provides instruction in power supplies, contact annunciators, magnetic amplifier annunciators, readout circuits, and pressure controller systems. The balance of the course is devoted to troubleshooting and calibration.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/89).

NV-1715-0934

SSN/SSBN Electronic Hovering and Depth Control Combined Maintenance
(Electronic Hovering and Depth Control Combined Maintenance)
(Electronic Hovering and Missile Compensation)

Course Number: A-623-0041.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: 2 weeks (63-80 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train technicians to operate, align, repair, and maintain equipment to stabilize a submarine during missile launch.

Instruction: Course includes operating stabilization equipment and performing preventive maintenance, alignment, and repair on the electronic aspects of the equipment. Troubleshooting of the system covers controls, indicators, transducers, and operational amplifiers.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/81).

NV-1715-0935

AN/ALR-45 Countermeasures Receiving Set Intermediate Maintenance

Course Number: C-102-3093.

Location: Air Maintenance Training Detachment, Cherry Point, NC; Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA; Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Miramar, San Diego, CA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 4-5 weeks (152 hours).

Exhibit Dates: 1/90–7/90.

Objectives: To provide experienced personnel with instruction in the maintenance of an electronic countermeasures receiving set by using appropriate circuit analysis and troubleshooting techniques and applicable test equipment.

Instruction: Lectures and practical laboratory work cover maintenance and troubleshooting of the electronic countermeasures test set, circuit analysis techniques, video circuit analysis, digital filtering analysis, and associated test equipment. There is also a review of transistor fundamentals and basic digital logic circuits.

Credit Recommendation: In the vocational certificate category, 3 semester hours in digital fundamentals (7/80); in the lower-division baccalaureate/associate degree category, 1 semester hour in digital fundamentals laboratory (7/80).

NV-1715-0936

AN/ALM-163 Digital Module Test Console Intermediate Maintenance

Course Number: C-102-3965.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To provide fleet aviation electronic technicians training in the maintenance and repair of a digital module test console.

Instruction: Lectures and laboratory instruction cover the functions and operation of a digital module test console, including the power supply, power distribution control systems, logic board operation, and the mechanical and electrical interface for a card reader. The student uses specialized test equipment to maintain, troubleshoot, and repair console components.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/80).

NV-1715-0937

A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance

Course Number: C-102-3969.

Location: Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train experienced maintenance personnel in the organizational maintenance of a sophisticated communications, navigation, identification, and intercommunication system and its associated equipment as used on a naval aircraft.

Instruction: Lectures and practical exercises cover the operation, maintenance, testing, troubleshooting, and repair of communications, radar altimeter, navigation systems, and specialized test equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in avionic maintenance technology (7/80).

NV-1715-0942

A-6E TRAM Weapons System Technician Organizational Maintenance

Course Number: C-102-3971.

Location: Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–7/90.

Objectives: To provide trained personnel with instruction on organizational maintenance of ballistics computer, search radar, inertial navigation, and TRAM armament system equipment.

Instruction: Lectures and laboratory instruction at the basic block-diagram level cover the operation, troubleshooting, repair, and alignment of specialized electronic equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (7/80).

NV-1715-0943

AN/ALM-117 Digital Test Station Operator

Course Number: C-102-3973.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train experienced maintenance personnel in the operation of a specialized digital test station.

Instruction: Lectures and practical exercises cover the operation of a digital test station, including magnetic tape drives, video terminal, interface adapters, and special alignment procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in computer operations and 1 in maintenance and repair laboratory (7/80).

NV-1715-0948

AN/ASM-459 Mini-SACE Flight System Test Console Intermediate Maintenance

Course Number: C-104-3769.

Location: Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 6 weeks (226 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train experienced maintenance personnel to maintain and troubleshoot a semiautomatic checkout equipment system test console.

Instruction: Lectures and practical exercises cover the operation, programming, and program interpretation of the mini-SACE flight system test console, including block-diagram analysis, parts location, and self-testing procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic maintenance technology (7/80).

NV-1715-0951

AN/USH-17(V-3)(V-7) Mission Recorder Set and AN/UPQ-5 Display Set with Ground Support Equipment Intermediate Maintenance

Course Number: C-102-3962.

Location: Air Maintenance Training Detachment, Oceana, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/92.

Objectives: The course provides experienced personnel with instruction in the maintenance of a video recorder applied to radar systems.

Instruction: Lectures and laboratory instruction cover functional analysis at the block-diagram level, theory of operation, and maintenance procedures including the alignment and troubleshooting of a video recorder system.

Credit Recommendation: In the vocational certificate category, 1 semester hour in audiovisual electronics (7/80).

NV-1715-0954

CU-1768A Computer Data Coupler and CP-926A Digital Data Computer Intermediate Maintenance

Course Number: C-102-3975.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train experienced personnel in the maintenance and repair of a digital data computer and computer interface adapter.

Instruction: Lectures and laboratory instruction cover basic computer fundamentals, such as input/output operation, interrupt registers and controls, central processor unit, store operations, memory addressing, timing sequences, and other basic computer operations including maintenance and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems (7/80).

NV-1715-0955

EA-6B ICAP Electronic Countermeasures Analyst Organizational Maintenance

Course Number: C-102-3968.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To provide personnel with instruction in operation and maintenance of a defensive electronic countermeasure and tactical jamming system.

Instruction: Lectures and laboratory instruction at the systems level cover surveillance receivers, encoders, various display procedures, digital recording systems, receivers, and practical troubleshooting.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic systems maintenance laboratory (7/80).

NV-1715-0956

Subassembly Test Console (SATC) Intermediate Maintenance (AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance)

Course Number: C-102-3956.

Location: Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA.

Length: 8-10 weeks (320-400 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To provide electronic maintenance personnel with instruction in the maintenance and operation of a contained test console.

Instruction: Lectures and laboratory instruction cover the theory and operation of the test console and how to interpret its results. Instruction includes signal flow, correct voltage, and logic levels as well as the function of each component and the effect its failure has on the circuit. The function and operating techniques of oscilloscopes, spectrum analyzers, pulse and sweep generators, counters, and other test equipment are presented. The course presumes prior knowledge of circuit analysis and transistor and logic theory.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radio frequency circuits (7/80); in the lower-division baccalaureate/associate degree category, 2 semester hours in radio frequency circuits laboratory and circuit troubleshooting techniques (7/80); in the upper-division baccalaureate category, credit in radio frequency circuit test laboratory on the basis of institutional evaluation (7/80).

NV-1715-0964

Marine Corps Surveillance Radar, Class C1

Course Number: C-103-2040.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–2/91.

Objectives: To provide military personnel with the knowledge and skills to inspect, test, and repair surveillance radar.

Instruction: Lectures and practical exercises cover transmitter and receiver alignment and troubleshooting on the AN/TPS-63 radar system, including the synchronizer and frequency generator, transmitter systems and antenna, cooling systems, and RF/IF receivers.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic and digital system troubleshooting and repair (2/81).

NV-1715-0979

Navigation Technician Type I SSN-637

Course Number: A-193-0022.

Location: Submarine School, New London, Groton, CT.

Length: 24 weeks (960 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide the skills necessary to operate and maintain the navigation system of an SSN-637 class submarine.

Instruction: This pipeline course is composed AN/WRN-5 Combined Maintenance (A-193-0054), (NV-1715-0913) and Ship's Inertial Navigation System Mk 3 Mod 4 Combined Maintenance (A-193-0356), (NV-1402-0141).

Credit Recommendation: Please refer to the individual exhibits noted above for credit recommendation (3/81).

NV-1715-0984

Receiver Combined Maintenance

Course Number: A-101-0135.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2-3 weeks (80-81 hours).

Exhibit Dates: 1/90–9/93.

Learning Outcomes: To provide knowledge and skills necessary to operate and maintain a low frequency submarine radio receiver.

Instruction: Lectures and laboratory exercises cover the operation and functional block-diagram analysis of a low frequency radio to the subassembly level. Also included is maintenance and corrective maintenance procedures to isolate faults down to the module level.

Credit Recommendation: In the vocational certificate category, 1 semester hour in communications receivers and maintenance laboratory (10/89).

NV-1715-0986

Subsystem Interface Fire Control System (FCS) Mk 88 Mod 1

Course Number: A-121-0286.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 2 weeks (70 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide training in the functional theory of the operation and maintenance of a missile control system.

Instruction: Lectures and laboratory exercises cover the functional operation of missile control subsystems, including power supplies, analog and digital converters, display systems, and built-in test equipment to the block diagram level. Maintenance procedures, fault isolation, and diagnostic techniques are also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronics maintenance and repair laboratory (3/81).

NV-1715-0987

Sonar Sounding Set AN/BQN-3 Maintenance (AN/BQN-3 Sonar Sounding Set Advanced Training)

Course Number: A-193-0254.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Submarine Training Center, Charleston, SC; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (60-71 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train technicians to operate, maintain, and calibrate a particular sonar system.

Instruction: Classroom and laboratory instruction cover the operation and maintenance of the BQN-3 sonar sounding set. Coverage includes system timing, transmitter, transducer, receiver, and auxiliary units of this vacuum tube system and fault isolation and repair procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronics maintenance and repair laboratory (vacuum tubes) (10/89).

NV-1715-0988

Periscope Type 15 Combined Maintenance (Periscope Set Type 15 Electronics Combined Maintenance)

Course Number: A-233-0048.

Location: Submarine School, New London, Groton, CT; Submarine Training Facility, San Diego, CA; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (50-76 hours).

Exhibit Dates: 1/90–10/91.

Objectives: To train technical personnel in the operation and maintenance of a periscope.

Instruction: Lectures and laboratory practice cover the operation and maintenance of periscope electromechanical systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/85).

NV-1715-0989

AN/WLR-8(V)2 Basic Operation (Electronic Surveillance Maintenance (ESM) AN/WLR-8(V)2 Basic Operator)

Course Number: A-233-0027A; A-233-0027.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (70-80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand the operation of electronic warfare support equipment.

Instruction: Classroom instruction and laboratory exercises cover the operation of specialized military equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/96).

NV-1715-0990

Sonar Receiving Set AN/BQR-19 Combined Maintenance

Course Number: A-130-0211.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Fleet Ballistic Missile Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train sonar technicians in the basic operation and maintenance of a sonar receiving set.

Instruction: Lectures and practical exercises cover the theory, operation, and maintenance at board/module level of the sonar receiving system and major subsystems, including receiver, beam-forming array, and control and logic functions. A review of basic digital logic functions such as adders and counters is also included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic troubleshooting and maintenance laboratory (12/89).

NV-1715-0991

Enlisted Sonar Principles

Course Number: F-130-0199; A-130-0251.

Location: Submarine School, New London, Groton, CT; Submarine Training Facility, Norfolk, VA; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Facility, Charleston, SC; Submarine Training Facility, San Diego, CA.

Length: 2 weeks (72-80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide sonar operators with further knowledge of mathematical, acoustic, and sonar principles needed to qualify as sonar supervisors.

Instruction: Lectures and problem solving exercises are presented in mathematics (algebra, trigonometry, exponents/logarithms/decibels); underwater acoustics; and sonar system principles, including transducers, arrays, signal processors, performance predictions, and tactical maneuvering problems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in sonar system principles (10/91).

NV-1715-0992

Sonar Receiving Set AN/BQR-21(V)
Combined Maintenance

Course Number: A-130-0184.

Location: Fleet Ballistic Missile Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train personnel in the operation and maintenance of specific equipment and its associated digital data processor and display unit.

Instruction: Lectures and laboratory practice cover the operation of sonar amplifiers, data processors, and digital display consoles and indicators. Preventive and corrective maintenance, alignment, and adjustment techniques are also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic maintenance laboratory and 1 in digital system maintenance laboratory (3/81).

NV-1715-0993

Mk 117 All Mods Combined Maintenance

Course Number: A-130-0191.

Location: Submarine School, New London, Groton, CT.

Length: 14-15 weeks (600 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train personnel to operate and maintain a computer-controlled missile firing system.

Instruction: Lectures and laboratory exercises cover all operating modes of a computer-controlled missile firing system, including command logic, timing diagrams, and circuit diagnostics for major subsystems, and including the control console, interface multiplexers, and the program controller. Digital, analog, and synchro converters are studied to enable the student to perform maintenance, fault isolation, and repair to the module level.

Credit Recommendation: In the vocational certificate category, 5 semester hours in computer maintenance and repair (3/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to computer principles and operation and 1 in digital troubleshooting (3/81).

NV-1715-0994

Dual Miniature Inertial Navigation System
(DMINS) AN/WSN-1(V)2 Combined
Maintenance
(AN/WSN-1(V)2 Combined Maintenance)

Course Number: A-102-0253.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 7-10 weeks (277-400 hours).

Exhibit Dates: 1/90–Present.

Objectives: To enable technicians to operate and maintain an inertial navigation system.

Instruction: Lectures and laboratory exercises cover the operation of a navigation computer system, including principles of inertial navigation, integrated circuits, and operation and maintenance of the dual miniature inertial navigation system.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer operator (10/89); in the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical systems technology with laboratory (10/89).

NV-1715-0996

Multiplexed Equipment Fire Control System
(FCS) Mk 88 Mod 1

Course Number: A-121-0294.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 2 weeks (52 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide the knowledge and skills necessary to maintain a multiplexer and interfacing servo system.

Instruction: Lectures and laboratory exercises cover the operation of a multiplexer, including control logic, signal flow, input and output signal format, and maintenance and repair procedures. The operation of a servo system as it relates to the multiplexer is also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical laboratory (3/81).

NV-1715-0997

Platform Positioning Subsystem Fire Control
System (FCS) Mk 88 Mod 1

Course Number: A-121-0287.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 3 weeks (105 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train personnel in the theory of operation, testing, and maintenance of a servo positioning subsystem.

Instruction: Lectures and laboratory instruction cover accelerometers, integrating gyros, control logic, printers, A/O converters, and maintenance procedures of an inertial servo positioning subsystem.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical maintenance and repair laboratory (3/81).

NV-1715-0998

Missile Test and Readiness Equipment
(MTRE) Mk 7 Mod 2 Advanced
Maintenance (Theory)

Course Number: A-121-0256.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To provide knowledge needed to repair missile test equipment.

Instruction: Lectures and laboratory exercises cover the functional operation to the block-diagram logic level of specialized missile equipment. Topics include power supplies, display and panel controls, system verification tests, paper tape input, and printer operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital equipment theory (3/81).

NV-1715-1000

Magnetic Tape Unit Advanced Training

Course Number: A-193-0251.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 2 weeks (76 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train technical personnel in the theory and maintenance of a digital computer magnetic tape drive.

Instruction: Classroom and laboratory instruction cover magnetic tape transports, read/write amplifiers, signal formats, computer interface control logic, EOT and EOB tape marks, parity, motion control registers, and recording modes. Corrective maintenance procedures are covered in a laboratory format.

Credit Recommendation: In the upper-division baccalaureate category, 1 semester hour in digital computer peripherals (3/81).

NV-1715-1002

Ship's Inertial Navigation System (SINS) Mk
2 Mod 6 Theory and Maintenance II

Course Number: A-193-0297.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train technical personnel in the maintenance of a specific navigation system.

Instruction: Classroom and laboratory instruction cover temperature monitoring and control circuits, fault indicators, A/D and D/A conversions, gyro circuitry, and data transmission circuits as they apply to navigation systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic maintenance and repair laboratory (3/81).

NV-1715-1003

AN/BQN-17 Combined Maintenance
(Sonar Sounding Set AN/BQN-17 Combined
Maintenance)

Course Number: A-130-0169.

Location: Fleet Training Center, Pacific, San Diego, CA; Submarine School, New London, Groton, CT.

Length: 2-3 weeks (47-120 hours).

Exhibit Dates: 1/90–8/94.

Objectives: To train sonar technicians in the basic operation and maintenance of a sonar sounding set.

Instruction: Lectures, demonstrations, and laboratory exercises cover the theory, operation, and maintenance at board/module level of the sonar system and major subsystems, including transmitter, receiver, signal processors, and auxiliary units. Also included is a review of basic digital logic functions such as counters, multiplexers, and PROMS.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1006

Fire Control System (FCS) Mk 113 All Models Common Equipment Combined Maintenance

Course Number: A-130-0146.

Location: Submarine Base, New London, Groton, CT.

Length: 15-18 weeks (600-720 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train personnel to maintain and repair a specific fire control system for torpedoes.

Instruction: Lectures and practical exercises cover the operation and maintenance procedures of the system. Circuitry is studied in detail with emphasis on fault isolation and repair. The system contains analog, digital, and electromechanical circuitry.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1007

Fire Control System (FCS) Mk 113 Mods 6/8 Mk 130 Digital Computer Maintenance

Course Number: A-130-0148.

Location: Submarine Base, New London, Groton, CT.

Length: 12 weeks (440 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train qualified technicians in the theory, operation, and maintenance of a small digital computer-based system.

Instruction: Classroom, laboratory instruction, and practical exercises cover computer architecture from the register down to the component level and analysis of the computer circuits with emphasis on maintenance and fault isolation.

Credit Recommendation: In the vocational certificate category, 6 semester hours in small computer maintenance (6/81); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital computer circuits (6/81).

NV-1715-1008

Fire Control System (FCS) Mk 113 Mod 9 Mk 78 Analyzer Maintenance

Course Number: A-130-0149.

Location: Submarine Base, New London, Groton, CT.

Length: 9 weeks (320 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train technical personnel in the operational maintenance and troubleshooting of the Mk 113 fire control system using standard test equipment.

Instruction: Classroom and laboratory instruction cover the troubleshooting of a specific fire control system. Topics include digital and analog interfaces, digital-to-synchro converters, synchro-to-digital converters, and functional organization of memory and associated support circuits.

Credit Recommendation: In the vocational certificate category, 3 semester hours in digital/analog equipment maintenance (6/81).

NV-1715-1009

Telephone Dial-X System Combined Maintenance

Course Number: A-623-0058.

Location: Submarine School, New London, Groton, CT; Submarine Training Center, Pearl Harbor, HI; Fleet Ballistic Missile Submarine Training Center, Charleston, SC.

Length: 2-3 weeks (56-80 hours).

Exhibit Dates: 1/90–8/91.

Objectives: To train personnel in the preventive and corrective maintenance of a dial telephone system.

Instruction: Lectures and practical exercises cover the fault isolation, preventive maintenance, troubleshooting, and corrective maintenance of a dial telephone system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in dial telephone system maintenance and repair (10/89).

NV-1715-1010

Electronics Technician Maintenance

Course Number: F-191-0010; L-191-0010.

Location: Naval Reactor Facility, Ballston Spa, NY; Naval Reactor Facility, Idaho Falls, ID; Trident Training Facility, Bangor, Bremerton, WA; Fleet Ballistic Missile Submarine Training Facility, Charleston, SC; Submarine Base, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 5-6 weeks (200-240 hours).

Exhibit Dates: 1/90–10/94.

Objectives: To train personnel in soldering, PC board repair, connector make-up, and troubleshooting techniques.

Instruction: Lectures and practical exercises cover soldering and desoldering techniques, PC card repair, make-up and installation of electrical connectors, cable lacing and assembly, crimped connectors and clamps. Also covered are the use of test equipment, dual trace scopes, time domain reflectometers, meggers and resistance bridges, capacitance, inductance bridges, and general troubleshooting techniques.

Credit Recommendation: In the vocational certificate category, 4 semester hours PC board soldering and repair and 4 in electronic equipment troubleshooting techniques (8/84); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic test equipment and 1 in electrical maintenance laboratory (8/84).

NV-1715-1011

Encapsulated Harpoon Command and Launch Subsystem Combined Maintenance

Course Number: A-130-0197.

Location: Submarine Base, New London, Groton, CT.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train personnel in the operation and maintenance of the control and launch subsystem of a short-range missile system.

Instruction: Lectures and practical exercises cover the general physical and operational modes of a weapon control system, including the functional operation of each subsystem, interface, and preventive maintenance procedures. The major emphasis of the course is on recognizing and interpreting malfunctions using prescribed procedures to isolate and repair faults in the system. A knowledge of basic digital logic gates and flip-flops is required.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic laboratory troubleshooting (6/81).

NV-1715-1012

Dewey Underwater Log Combined Maintenance

(Dewey U/W Log Combined Maintenance)

Course Number: A-623-0062.

Location: Submarine Base, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train students to operate and maintain an electromagnetic underwater speed sensor.

Instruction: Classroom and laboratory instruction cover the operation of Dewey underwater speed sensor equipment, including alignment, adjustment, calibration, fault isolation, and repair.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/81).

NV-1715-1013

Mk 113 Mod 10 Digital Display Subsystem

Course Number: A-130-0150.

Location: Submarine Base, New London, Groton, CT.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–3/91.

Objectives: To train personnel to properly maintain a computer-controlled missile firing system.

Instruction: Lectures and practical exercises cover the functional description and maintenance and fault isolation procedures for a missile firing system. The control console, interface connections, display units, control computer, and power supplies are examined.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital equipment maintenance and repair laboratory (3/81).

NV-1715-1014

AN/ARN-52(V), AN/ARN-105 and AN/ARN-86 TACAN Navigation Sets Intermediate Maintenance

Course Number: *Version 1:* C-102-3034. *Version 2:* C-102-3034.

Location: *Version 1:* Air Station, New River, NC; Air Station, Tustin, CA; Air Station, Cherry Point, NC; Air Station, Cecil Field, FL; Air Station, Lemoore, CA; Air Station, Miramar, San Diego, CA; Air Station, Moffett Field, CA; Air Station, Jacksonville, FL; Air Station, Chase Field, TX; Air Station, Oceana, Virginia Beach, VA. *Version 2:* Air Station, Beaufort, SC; Air Station, New River, NC; Air Station, Tustin, CA; Air Station, Cherry Point, NC; Air Station, Cecil Field, FL; Air Station, Lemoore, CA; Air Station, Miramar, San Diego, CA; Air Station, Moffett Field, CA; Air Station, Jacksonville, FL; Air Station, Chase Field, TX; Air Station, Oceana, Virginia Beach, VA.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 4 weeks (160 hours).

Exhibit Dates: *Version 1:* 8/93–Present. *Version 2:* 1/90–7/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, troubleshoot, and maintain three specific TACAN navigation sets to the subassembly level. *Version 2:* Upon completion of the course, the student will be able to operate, troubleshoot, and maintain three specific TACAN navigation sets to the subassembly level.

Instruction: *Version 1:* Lectures and laboratory exercises cover the operation, repair, and troubleshooting of TACAN sets, including a review of vacuum tubes, transistors, and theoretical troubleshooting, video decoding, channel servo, air-to-air suppression, and antenna select circuits as they relate to the care and maintenance of air navigation equipment. *Version 2:* Lectures and laboratory exercises cover the operation, repair, and troubleshooting of TACAN sets, including a review of vacuum tubes, transistors, and theoretical troubleshooting, video decoding, channel servo, air-to-air suppression, and antenna select circuits as they relate to the care and maintenance of air navigation equipment.

Credit Recommendation: *Version 1:* In the vocational certificate category, 1 semester hour in radio navigation (8/93). *Version 2:* In the vocational certificate category, 2 semester hours in electronics laboratory (7/81).

NV-1715-1015

AN/ARC-101 VHF Communications System
Intermediate Maintenance

Course Number: C-102-3023.

Location: Air Station, North Island, San Diego, CA; Air Station, Moffett Field, CA; Air Station, Patuxent River, MD.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide fleet maintenance personnel with instruction at the block-diagram level in the analysis, maintenance, and repair of a VHF receiver and transmitter.

Instruction: Lectures and laboratory exercises at the block-diagram level cover the analysis of RF/IF, audio, AVC, and sensitivity circuits and frequency synthesis, modulators, oscillators, and circuitry related to alignment, troubleshooting, and repair of VHF transmitters and receivers.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics or communications laboratory (7/81).

NV-1715-1016

AN/ULA-2 Pulse Analyzer Group
Intermediate Maintenance

Course Number: C-102-3532.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train experienced maintenance personnel to maintain, troubleshoot, and repair a pulse analyzer.

Instruction: Lectures and practical exercises cover the operation and repair of a pulse analyzer. Using block diagrams and circuit schematics, the student troubleshoots power supplies, video amplifiers, sweep circuits, audio circuits, and associated circuitry using some standard electronic repair equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (7/81).

NV-1715-1017

AN/AQA-7(V)4 and AN/AQA-7(V)5 Sonar
Computer Recorder Group Difference
Data Intermediate Maintenance

Course Number: C-102-3570.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 5 weeks (224 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train experienced technicians in the maintenance and repair of a sonar computer-recorder group and a sonar computer-recorder group test control.

Instruction: Lectures and practical exercises cover the operation, troubleshooting, and repair of a sonar computer-recorder and its associated test set, including digital sweep frequency generators, analog and digital displays, power supplies, regulator assemblies, spectrum analyzers, and related electronic repair equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronics maintenance (7/81).

NV-1715-1019

AN/UYQ-8 Data Processing Set Intermediate
Maintenance

Course Number: C-102-3605.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide fleet maintenance personnel with knowledge to operate, analyze, troubleshoot, and maintain the AN/UYQ-8 data processing set equipment.

Instruction: Lectures and laboratory exercises include functional analysis at the block-diagram level of a central indicator, a converter, and a power supply. Approximately one half of student's time is devoted to operation, repair, and maintenance of the equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics maintenance laboratory (7/81).

NV-1715-1020

CU-2070/ARC Automatic Antenna Coupler
Intermediate Maintenance

Course Number: C-102-3562.

Location: Air Station, Jacksonville, FL; Air Station, Patuxent River, MD; Air Station, Moffett Field, CA.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel to maintain an automatic antenna coupler.

Instruction: Class instruction covers the maintenance of an automatic antenna coupler including RF circuit analysis and repair techniques.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (7/81).

NV-1715-1022

Integrated Circuit Components
(Microelectronics) Intermediate
Maintenance

Course Number: C-102-3110.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 4 weeks (144 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide fleet electronic maintenance personnel with basic theory and practical troubleshooting methods for circuit components.

Instruction: Lectures and laboratory exercises cover integrated circuits (microelectronics), component identification, basic theory of operational amplifiers, transistor-transistor logic gates, multiplexers, flip-flop counters, shift registers, and memories. Course includes component analysis, fault isolation, and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer or electronics engineering technology and 2 in computer laboratory (7/81).

NV-1715-1024

P-3A/B (DIFAR) Weapons Systems Technician
Organizational Maintenance

Course Number: C-102-3561.

Location: Air Station, Jacksonville, FL; Air Station, Patuxent River, MD; Air Station, Moffett Field, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide maintenance personnel with instruction in the avionics systems of the P-3A/B aircraft.

Instruction: Lectures and practical exercises cover the operation, components, maintenance, and troubleshooting of radar, IFF, ECM, MAD, and sonar systems. Course includes power system, block diagrams, and signal flow and interface characteristics, recording, and display.

Credit Recommendation: In the vocational certificate category, 5 semester hours in electronics and avionics system maintenance (7/81).

NV-1715-1025

P-3C Integrated Avionics System (Update I)
Organizational Maintenance

Course Number: C-102-3607.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 18-19 weeks (740-745 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To provide fleet personnel with training in maintenance and repair of a P-3C Update I avionics system.

Instruction: Lectures and practical exercises cover computer structure, instructions, addressing, programming memory, input/output, fault isolation techniques, and operation of the system. Also included are magnetic tape, multiplexers, display and drum memory operation, and troubleshooting and operation and interfacing of radar, communications/navigation, sonar, magnetic anomaly detectors, inertial navigation, Doppler radar, Omega navigation, and instruments and flight controls. Approximately one half of the student's time is spent in practical, equipment-oriented activities.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic maintenance and 3 in computer maintenance (7/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in computer organization and functions, 3 in avionics technology, and 2 in computer laboratory (7/81).

NV-1715-1026

Aviation Machinist's Mate, Class A, (P-3) Power Plant System, Class A1
(P-3 Aviation Machinist's Mate (AD) Entry Level)

Course Number: C-601-3572.

Location: Air Station, Jacksonville, FL; Air Station, Moffett Field, CA.

Length: 3 weeks (119 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train enlisted personnel in turbine engine maintenance.

Instruction: Lectures cover turbine engine theory, including aircraft nomenclature, theory of flight, mathematics, hydraulics, electricity, and tool selection and use.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in theory of turbine engine maintenance (7/81).

NV-1715-1030

AN/ALD-2B Direction Finder System Intermediate Maintenance

Course Number: C-102-3042.

Location: Air Station, Moffett Field, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel to maintain, troubleshoot, and repair a specific direction finder system.

Instruction: Lectures cover the operation, troubleshooting, and repair of a direction finder, including electronic circuit tracing and troubleshooting to the component level and repair techniques and alignment of video circuitry, audio circuitry, pulse amplifiers, power supplies, and related circuits.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics maintenance laboratory (7/81).

NV-1715-1031

AN/APN-141(V) Radar Altimeter Intermediate Maintenance

Course Number: C-102-3033.

Location: Air Station, Cherry Point, NC; Air Station, Lemoore, CA; Air Station, Moffett Field, CA; Air Station, Jacksonville, FL; Air Station, Miramar, San Diego, CA.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train maintenance personnel in the maintenance and operational procedures of a radar altimeter.

Instruction: Lectures and exercises cover system operation and components, use of test equipment and testing, alignment, and troubleshooting techniques.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (7/81).

NV-1715-1032

Walleye 2 Extended Range Data Link Intermediate Maintenance

Course Number: C-121-3781.

Location: Air Station, Lemoore, CA; Air Station, Cecil Field, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train maintenance personnel to maintain the Walleye II extended range data link system using appropriate test equipment.

Instruction: Lectures and laboratory exercises cover the use of electronic test equipment to check, troubleshoot, and adjust hardware related to the Walleye missile guidance and control system.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronics laboratory (3/82).

NV-1715-1033

OA-9008 Magnetic Tape Control Unit and Magnetic Tape Transport

Course Number: A-150-0235.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train data systems technicians in the operation and maintenance of a magnetic tape transport unit.

Instruction: The course covers the theory of operation of a magnetic tape drive unit, the manner in which data is stored on the tape, and the operation of the tape controller. Also included are the mechanical systems, the electronics used in the controller, and the maintenance procedures used on the drive unit.

Credit Recommendation: In the vocational certificate category, 1 semester hour in computer I/O equipment operation and repair (11/81).

NV-1715-1034

Operations Summary Console Difference Maintenance

Course Number: A-150-0088.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train students in theory, operation, and maintenance of shipboard equipment used to display navigational information received from the ship's radars, sonar, and other sensors.

Instruction: Lectures and practical exercises familiarize the student with electronic circuitry of the systems, including digital memory, video circuitry, video display, transfer of digital data to and from a computer, and signal processing. Emphasis is placed on fault isolation using a system technical manual.

Credit Recommendation: In the vocational certificate category, 3 semester hours in digital systems theory and troubleshooting (11/81); in the lower-division baccalaureate/associate degree category, 1 semester hour in digital systems troubleshooting laboratory (11/81).

NV-1715-1035

Radar Set AN/SPG-51D Gun and Guided Missile Director Mk 73 Mod 2 and Ancillary Equipment Operation and Maintenance

Course Number: A-104-0127.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 31 weeks (1200 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train fire control technicians to maintain a gun and guided missile radar director and ancillary equipment.

Instruction: Lectures and practical exercises cover the operation, maintenance, and repair of a fire control system which includes a pulse radar system, radar test set, gun and guided missile director, A/D and D/A signal data converter, television monitor, and control console. Emphasis is on a functional understanding of signal flow of sufficient depth in both analog and digital electronics to apply troubleshooting procedures to isolate faults to the board or component level.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radar operating system and maintenance and 1 in television monitor maintenance (11/81); in the lower-division baccalaureate/associate degree category, 1 semester hour in digital equipment troubleshooting laboratory and 1 in electronic systems troubleshooting laboratory (11/81).

NV-1715-1036

Guided Missile Frigate (FFG-7) Combat Systems Maintenance

Course Number: A-121-0408.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 5 weeks (190 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train personnel to maintain combat system equipment aboard an FFG-7 class ship.

Instruction: Lectures and practical exercises cover the mission, physical characteristics, operating modes, capabilities, and limitations of a search radar, data processing subsystem, and a data display antisubmarine and antiaircraft system. Data signal flow and block-diagram descriptions are given to teach fault isolation to a specific subsystem using reference documentation, test programs, and general purpose test equipment following established troubleshooting procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic systems troubleshooting (11/81).

NV-1715-1037

Mk 23 Mod 0/1 Target Acquisition System (TAS) Maintenance

Course Number: A-121-0471.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 24 weeks (1156 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide selected fire control technicians with the training required to maintain a shipboard target acquisition system.

Instruction: Lectures and practical exercises cover the operation and purpose of a target acquisition system, including a UNIVAC 1616 computer system and its memory; tape and I/O devices; system power distribution; radar system and its transmitter, antenna, receiver, signal processor, and display console; and the troubleshooting procedures to be used with each.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer systems operation and maintenance (11/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems operation and maintenance and 1 in computer system operations (11/81).

NV-1715-1038

Mk 25 Guided Missile Launching System (GMLS)

Course Number: A-121-0124.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide the student with skills and knowledge necessary to operate and maintain a guided missile launching system.

Instruction: Lectures and practical exercises familiarize the student with the operation and major subassemblies of the missile launcher, including mechanical characteristics, generators, motors, solenoids, and vacuum tube circuitry.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (11/81).

NV-1715-1039

Mk 29 Mod 0 Guided Missile Launching System (GMLS) Maintenance

Course Number: A-121-0041.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide the technical knowledge and skills necessary to repair, maintain, and operate a specific guided missile launching system.

Instruction: Lectures and practical exercises cover the physical characteristics, major components, controls, indicators, and operation of each part of the launch system and include basic digital electronics and computer troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic digital electronics and 1 in computer troubleshooting (11/81).

NV-1715-1041

Basic FFG-7 Class AN/UYA-4(V) Equipment Maintenance

Course Number: A-150-0244.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train personnel in the theory of operation and the maintenance procedures for a shipboard combat system consisting of all systems associated with detection, evaluation, acquisition, engagement, or deception of enemy air, surface, or subsurface targets.

Instruction: Lectures and practical exercises cover the theory of operation, use and maintenance of a combat weapon support system, including operation of the display console, classification of scope presentations, symbol identification, and display system troubleshooting and repair; radar azimuth converter repair (component level); power system repair; radar data distribution switchboard fault analysis and repair; pulse amplifier and symbol generator fault isolation and alignment; radar display console fault isolation; test set use; analysis and repair; and general testing procedures.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic system troubleshooting (11/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems (operation and maintenance) and 1 in electronic systems laboratory (11/81).

NV-1715-1042

Dewey Underwater Log Maintenance, Class C1

Course Number: A-623-0096.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To train personnel in the operation and maintenance of an electromagnetic log (speed monitor).

Instruction: Instruction and practical exercises cover the theory of operation, maintenance, and troubleshooting of a Mk 6 Dewey Electromagnetic Log.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic equipment maintenance and repair (10/83).

NV-1715-1043

Combat Systems Maintenance Management for the CGN-38

Course Number: A-121-0404.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train personnel to manage maintenance of combat systems aboard a CGN-38 surface combat ship.

Instruction: Students learn the mission, physical characteristics, operating modes, capabilities, and limitations of combat systems on a surface combat ship. Procedures to effectively manage combat system level maintenance is given through applicable documentation used to detect, isolate, and evaluate the impact of a fault on the combat capability of the system. The troubleshooting, maintenance, and repair is specialized to specific military equipment.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (11/81).

NV-1715-1044

CP-789(V)/UYK Computer

Course Number: A-150-0242.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide students with the theory of operation and the skills necessary to maintain a specific general purpose digital computer (UNIVAC 12/80).

Instruction: Lectures and practical exercises are designed to familiarize the student with computer hardware and software, including the power supply, memory, input and output circuitry, control circuitry, arithmetic circuitry, and computer instruction set. Writing of diagnostic programs to detect and locate faults is also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer operation and real time processing and 1 in computer diagnostics and repair (11/81).

NV-1715-1045

CV-2036 Analog Digital Converter (KCMX) Maintenance

Course Number: A-150-0100.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train personnel in the theory, operation, and maintenance of a multiplexer handling both digital and analog signals.

Instruction: Lectures and practical exercises familiarize the student with the circuitry which performs analog-to-digital conversion, digital-to-analog conversion, digital decoding and encoding, synchro-to-digital conversion, digital-to-digital formatting, and multiplexing. The course emphasizes fault isolation and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital computer interfacing and 1 in digital systems troubleshooting (11/81).

NV-1715-1046

DD-963 Combat System Maintenance Management

Course Number: A-121-0406.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train personnel to manage maintenance of combat systems aboard a DD-963 class surface ship.

Instruction: Students learn the mission, physical characteristics, operating modes, capabilities, and limitations of combat systems and how to effectively manage maintenance operations. Course includes data signal flow and block-diagram description of radar transmitters, receivers, antennas, sonar and associated subsystems and principles of digital logic and programming concepts. Systematic diagnosis using applicable documentation to detect, isolate, and repair equipment is also covered.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radar system maintenance and repair and 3 in computer system maintenance and repair (11/81).

NV-1715-1047

AN/USQ-59 Data Terminal Set Maintenance

Course Number: A-150-0099.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 2 weeks (66 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide selected personnel with knowledge in the theory of operation and maintenance of a specialized digital-to-analog and analog-to-digital signal converter data terminal set.

Instruction: Lectures and practical exercises cover the theory of operation of a specialized digital-to-analog and analog-to-digital signal converter which takes a 24 bit input word and converts it to an analog signal suitable for radio transmission or accepts signals for conversion to digital information. Also covered is the theory of maintaining this equipment, including block-diagram analysis, AC/DC power distribution, A/D and D/A conversion, phase shift modulation, parallel-to-serial and serial-to-parallel data conversion, and fault isolation to the module level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital communications practices (11/81).

NV-1715-1049

BASIC AN/UYA-4 DISPLAY EQUIPMENT MAINTENANCE

Course Number: A-150-0022.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide selected personnel with the theory of operation and maintenance of a data display subsystem such that they will be able to operate, test, and perform corrective and preventive maintenance on this system.

Instruction: Lectures and practical exercises cover the operation and function of many subsystems used within a complex target identification, weapon coordination, and communications system. Course includes computer interface procedures and circuitry, symbol generators, pulse amplifiers (dual/four channel types), amplifier alignment, refresh memory units (operation, use and fault isolation), radar range detection procedures (theory and troubleshooting), digital converters for radar data analysis, sonar azimuth converters for digital analysis, radar video display circuit analysis and repair procedures, and video signal simulation.

Credit Recommendation: In the vocational certificate category, 3 semester hours in digital troubleshooting theory and techniques and 3 in electronic systems troubleshooting (11/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems (operation and maintenance), 1 in digital systems laboratory, and 1 in electronic systems laboratory (11/81).

NV-1715-1050

AN/SRC-23 HF TRANSCEIVER AN/SRA-34 COUPLER MAINTENANCE

Course Number: A-101-0043.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (221 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train students to repair a specific naval radio receiver, transmitter, and antenna coupler.

Instruction: Lectures and practical exercises cover single-sideband transmission theory, operation, circuit details, and troubleshooting of the radio receiver-transmitter and antenna coupler systems. Emphasis is placed on fault isolation techniques to the subassembly level using technical manuals.

Credit Recommendation: In the vocational certificate category, 2 semester hours in troubleshooting techniques (11/81).

NV-1715-1051

AN/SRC-31 A/B UHF TRANSCEIVER AND CU-1559 COUPLER MAINTENANCE

Course Number: A-101-0045.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 3 weeks (108 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train students to repair a specific naval radio receiver-transmitter and its antenna coupling system.

Instruction: Lectures and practical exercises cover the details of all electronic circuitry of the receiver-transmitter and its antenna coupler. Emphasis is placed on fault isolation and repair of the system using technical manuals.

Credit Recommendation: In the vocational certificate category, 1 semester hour in troubleshooting techniques (11/81).

NV-1715-1052

AN/SSQ-29 DATA TERMINAL SET MAINTENANCE-DIFFERENCE

Course Number: A-150-0062.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide selected personnel with knowledge in the theory of operation and maintenance of a specialized digital-to-analog and analog-to-digital signal converter data terminal set.

Instruction: Lectures and practical exercises cover the theory of operation of a specialized digital-to-analog and analog-to-digital signal converter which takes a 24 bit input word and converts it to an analog signal suitable for radio transmission and visa versa and the theory of maintaining this equipment. Course includes AC/DC power distribution, transmit and receive control, troubleshooting and fault isolation, A/D and D/A conversion procedures, test set utilization, and repair to the component level.

Credit Recommendation: In the vocational certificate category, 1 semester hour in digital communications system troubleshooting procedures (11/81).

NV-1715-1053

AN/SSW-1 DATA TERMINAL SET MAINTENANCE

Course Number: A-150-0064.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 2 weeks (74 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide selected personnel with the theory of operation and maintenance of an data terminal set.

Instruction: The course covers the theory of operation and maintenance of a specialized military data terminal set including AC/DC power distribution, digital-to-digital converter, block-diagram analysis, and troubleshooting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital communications systems troubleshooting procedures (11/81).

NV-1715-1054

AN/URC-85 UHF TRANSCEIVER MAINTENANCE

Course Number: A-101-0072.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train students to repair a specific naval radio receiver and transmitter.

Instruction: Course includes familiarization with all electronic circuitry of the receiver-transmitter system, including power distribution, power amplification, modulation, IF amplifier, and filters. Emphasis is placed on fault isolation and repair of the system using technical manuals.

Credit Recommendation: In the vocational certificate category, 1 semester hour in troubleshooting techniques (11/81).

NV-1715-1055

AN/USQ-36 DATA TERMINAL SET MAINTENANCE

Course Number: A-150-0063.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 4 weeks (183 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide select personnel with knowledge in the theory of operation and maintenance of a specialized digital-to-analog and analog-to-digital signal converter data terminal set.

Instruction: Lectures and practical exercises cover the theory of operation of a specialized digital-to-analog and analog-to-digital signal converter which takes a 24 bit input word and converts it to an analog signal suitable for radio transmission or vice versa and the theory of maintaining this equipment. Course includes power distribution, self-check failure methods, timing sequences, transmit and receiver timing and control, A/D and D/A conversion, and fault isolation procedures to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital communications systems troubleshooting procedures (11/81).

NV-1715-1056

AN/SPS-48(V) RADAR MAINTENANCE

Course Number: A-104-0155.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 28 weeks (975 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide trained personnel with the knowledge needed to perform maintenance and repair on a specialized radar system.

Instruction: Course covers the operation and maintenance of a specialized radar system, including theory of operation of the radar system, using block diagrams and schematics; the computer controller and its operation; the transmitter and receiver systems; the console operation; and the signal tracing needed to troubleshoot these systems. Topics include number systems, conversions, arithmetic operation in binary including square roots, and 3-D inertial coordinate equations.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronics troubleshooting (11/81); in the lower-division baccalaureate/associate degree category, 3 semester hours in radar system operations and maintenance and 2 in digital logic systems maintenance (11/81).

NV-1715-1057

AN/SPS-58A RADAR MAINTENANCE

Course Number: A-104-0145.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide students with the knowledge and skills necessary to operate and maintain a radar system.

Instruction: Students learn the purpose and physical location of major subassemblies of the radar system including controls and indicators and use built-in test equipment to align and maintain the system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in radar systems maintenance (11/81).

NV-1715-1058

AN/SRC-16, AN/SRC-13 Transceiver Maintenance Differences

Course Number: A-101-0044.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 3 weeks (111 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train students in the theory of operation and maintenance of a specific naval radio receiver-transmitter.

Instruction: The course provides a detailed familiarization of all electronic circuitry in the receiver-transmitter. Emphasis is placed on fault isolation and repair of the system using technical manuals.

Credit Recommendation: In the vocational certificate category, 1 semester hour in troubleshooting techniques (11/81).

NV-1715-1059

AN/SPS-48C Radar Difference

Course Number: A-104-0175.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide radar technicians with the skills and knowledge necessary to operate and maintain a search radar system used in an automatic target detection system.

Instruction: Lectures and practical exercises cover the operation and maintenance of a specialized search radar system, including a UNIVAC 1616 computer system, its memory, tape, and I/O devices and target processor and interface systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer systems operation and maintenance (11/81); in the lower-division baccalaureate/associate degree category, 1 semester hour in computer system operations (11/81).

NV-1715-1060

AM-2310-ASQ AM-2349-ASQ-19 Amplifier (Power Supply) Receiver Intermediate Maintenance

Course Number: C-102-3099.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in the operation, testing, and maintenance of a communications unit comprised of power supply, receiver, and amplifier units.

Learning Outcomes: Upon completion of the course, the student will be able to test, analyze, troubleshoot, and repair communications circuits, including a power supply unit, a UHF receiver, and automatic direction finding circuitry.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic communications and 1 in electronic communications laboratory (5/85).

NV-1715-1061

Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance
(Ship's Navigation and Aircraft Inertial Alignment Systems Maintenance)

Course Number: A-193-0040.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 26 weeks (1040 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train personnel in the operation, calibration, and maintenance of an inertial navigational system.

Instruction: Personnel are given in-depth instruction in the theory, operation, and maintenance of an inertial navigational system. The course includes review of algebra, trigonometry, and vector algebra; physics of linear and rotational motion, principles of gyroscope operation, and basic inertial system dynamics; number systems, BCD codes, and conversions including fractions, logic gates, and flip-flops; and program flow charts. Included are operation and functional characteristics of a navigation computer and its peripherals, including paper tape reader, paper tape punch, teletype terminal, CRT display, and power supplies. Repertoire of the computer instruction set and programming applications include bootstrap and dump routines; basic theory; electrical and mechanical characteristics of servo systems; and use of differential voltmeters and oscilloscopes to calibrate, align, and troubleshoot equipment, in some cases, to the component level.

Credit Recommendation: In the vocational certificate category, 2 semester hours in applied mathematics and 2 in applied physics (11/81); in the lower-division baccalaureate/associate degree category, 6 semester hours in electromechanical systems (11/81).

NV-1715-1063

Harpoon Ship Command Launch Control Set Maintenance

Course Number: J-113-0127.

Location: Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Dam Neck, VA; Fleet Training Center, San Diego, CA; Fleet Training Center, Pearl Harbor, HI.

Length: 6 weeks (210 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide fire control technicians with the knowledge and skills necessary to operate and maintain the Harpoon ship command launch control set AN/SWG-1(V).

Instruction: Lectures and practical exercises cover the operation and maintenance of the Harpoon ship command launch control set with emphasis on fault isolation and repair at the system and component level and/or preventive maintenance of the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours of technical elective credit in electrical or electronic associate degree programs (11/81).

NV-1715-1064

AN/SRN-12/12A Omega Receiving Set Maintenance

Course Number: A-102-0077.

Location: Fleet and Mine Warfare Training Center, Charleston, SC; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (48 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train enlisted personnel to operate, maintain, and repair the Omega receiving set and to operate and use associated test equipment.

Instruction: Lectures and practical experience cover the maintenance, operation, and repair of the Omega receiving set. Proper utilization of test equipment is taught. Course includes signal characteristics, initializing, chart operational checks, symbolic integrated maintenance, troubleshooting, and computer interface.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in a technical elective in electrical or electronics technology (11/81).

NV-1715-1065

Submarine Periscope Repair, Class C1

Course Number: A-670-0019.

Location: Service School Command, Great Lakes, IL.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–6/91.

Objectives: After 6/91 see NV-1715-1654. To provide optical men with additional technical skills and knowledge to more effectively perform their duties.

Instruction: Lectures and practical exercises cover the repairing and overhauling of submarine periscopes, including inspecting, replacing defective parts, refinishing surfaces, cleaning, reassembling, collimating, adjusting optical elements, sealing, drying, and charging of optical assemblies. Course includes a review of basic electricity, electronics, motors, synchros, torque motors, and heaters and operation and maintenance of the electromechanical systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical technology (1/86); in the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical technology (1/86).

NV-1715-1066

AN/SPG-53F Modified Radar Maintenance

Course Number: A-113-0093.

Location: Service School Command, Great Lakes, IL.

Length: 16 weeks (640 hours).

Exhibit Dates: 1/90–5/92.

Objectives: After 5/92 see NV-1715-1707. To train technicians in the maintenance of a radar set.

Instruction: Lectures and practical exercises cover the operation and maintenance of power supplies, synchronizer circuits, antenna scanners, video circuits, ranging circuits, D/S converter circuits, modulation circuits, jamming circuits, and display circuits.

Credit Recommendation: In the vocational certificate category, 6 semester hours in radar electronic maintenance (1/82).

NV-1715-1067

AN/WSN-2 Stabilized Gyrocompass Maintenance, Class C1

Course Number: A-670-0048.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–3/95.

Objectives: After 2/95 see NV-1715-1790. To provide the technical knowledge and skills required to operate, maintain, and repair a stabilized gyrocompass.

Instruction: Lectures and laboratory exercises cover operation, alignment, troubleshooting, and maintenance of the gyrocompass system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in gyrocompass principles and maintenance (10/83).

NV-1715-1068

Close-In Weapons System 15-1, Class C1

Course Number: A-113-0078.

Location: Service School Command, Great Lakes, IL; Training Center, San Diego, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 27 weeks (1080 hours).

Exhibit Dates: 1/90–12/90.

Objectives: After 12/90 see NV-1715-1530. To train technicians in the operation, maintenance, and repair of electronically controlled weapon systems.

Instruction: Lectures and practical exercises cover the operation, maintenance, and repair of power supplies, environmental control systems, remote and local computer-driven display and control systems, operation and loading of receivers, and servo-control systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in servo systems maintenance and 3 in radar circuits maintenance (1/82); in the lower-division baccalaureate/associate degree category, 4 semester hours in computer interface maintenance (1/82).

NV-1715-1069

Electronics Technician Advanced Electronics Field/ Marine Corps/ Foreign, Class A1

Course Number: A-100-0062.

Location: Service School Command, Great Lakes, IL.

Length: 28 weeks (1120 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To develop the skills and knowledge necessary to perform basic maintenance on a variety of electronic equipment.

Instruction: The introductory-level course presents the principles of digital circuits, including number systems; number conversion techniques; logic concepts; logic gates; Boolean expressions; logic diagrams; magnetic storage devices; display devices; flip-flops; counters; registers; encoders and decoders; basic communications principles; AM and FM waveforms and frequency spectra; decibels; operation of a spectrum analyzer and its application to a signal flow analysis of an SSB receiver; and FM transceiver and high frequency transmitter/receiver, including RLC filter circuits, mechanical filters, modulator and demodulator circuits, oscillators, RF, IF, and audio circuits. Fifty percent of the time is devoted to signal tracing, alignment, maintenance, and troubleshooting techniques in the laboratory. Introduction to radar and microwave circuits including microwave propagation, characteristics of waveguides, chokes, dummy loads, directional couplers, resonant cavities, stub tanners, CRT characteristics, klystrons, magnetrons, traveling wave tubes, microwave measurements, and synchros is also covered. Course includes operation, alignment, fault isolation, and repair of AN/SPS-10 and AN/SPA-25 radar sets.

Credit Recommendation: In the vocational certificate category, 2 semester hours in introduction to digital circuits and 4 in electronic equipment repair (1/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems and 1 in microwave systems (1/82).

NV-1715-1070

Electronics Technician Nuclear Field, Class A1

Course Number: A-100-0064.

Location: Service School Command, Great Lakes, IL.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To develop the skills and knowledge necessary to perform basic maintenance on a variety of electronic equipment.

Instruction: This introductory-level course presents the principles of digital circuits, including number systems, number conversion techniques, logic concepts, logic gates, Boolean expressions, logic diagrams, magnetic storage devices, display devices, flip-flops, counters, registers, encoders and decoders; basic communication principles, AM and FM waveforms and frequency spectra, and decibels; and operation of a spectrum analyzer and its application to a signal flow analysis of an SSB receiver and FM transceiver, including RLC filter circuits, mechanical filters, modulator and demodulator circuits, oscillators, RF, IF, and audio circuits. Fifty percent of the time is devoted to signal tracing, alignment, maintenance and troubleshooting techniques in the laboratory. Course includes use of basic test equipment, characteristics of diodes and transistors, simple transistor circuits, debiasing and load line development. Other topics include vacuum tube characteristics and operation, turled circuits, loading, Q, RF coupling techniques, Class A and Class C amplifiers, RF oscillators, multipliers, types of modulation and detection, distortion, and characteristics of antennas. Introduction to radar and microwave circuits include microwave propagation, characteristics of waveguides, chokes, dummy loads, directional couplers, resonant cavities, stub tanners, CRT characteristics, klystrons, magnetrons, traveling wave tubes, microwave measurements, and synchros. Operation, alignment, fault isolation, and repair of a radar set is emphasized.

Credit Recommendation: In the vocational certificate category, 2 semester hours in introduction to digital circuits and 3 in electronic equipment repair (1/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems and 1 in microwave systems (1/82).

NV-1715-1071

Electronics Technician Submarine/Reserve, Class A1

Course Number: A-100-0063.

Location: Service School Command, Great Lakes, IL.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To develop the skills and knowledge necessary to perform basic maintenance on a variety of electronic equipment.

Instruction: This is an introductory-level presentation covering the principles of digital circuits, including number systems, number conversion techniques, logic concepts, logic gates, Boolean expressions, logic diagrams, magnetic storage devices, display devices, flip-flops, counters, registers, encoders and decoders; basic communication principles, AM and FM waveforms and frequency spectra, decibels; and operation of a spectrum analyzer and its application to a signal flow analysis of an SSB receiver, FM transceiver, and high frequency transmitter/receiver, including RLC filter circuits, mechanical filters, modulator and demodulator circuits, oscillators, RF, IF, and audio circuits. Fifty percent of the time is devoted to signal tracing, alignment, maintenance, and troubleshooting techniques in the laboratory.

Credit Recommendation: In the vocational certificate category, 2 semester hours in introduction to digital circuits and 3 in electronic equipment repair (1/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems (1/82).

NV-1715-1072

Electronics Technician Air Force, Class A1

Course Number: A-100-0065.

Location: Service School Command, Great Lakes, IL.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To develop the skills and knowledge necessary to perform basic maintenance on a variety of electronic equipment.

Instruction: This introductory-level course presents the principles of digital circuits, including number systems, number conversion techniques, logic concepts, logic gates, Boolean expressions, logic diagrams, magnetic storage devices, display devices, flip-flops, counters, registers, encoders and decoders; basic communications principles, AM and FM waveforms and frequency spectra, decibels; and operation of a spectrum analyzer and its application to a signal flow analysis of an SSB receiver and FM transceiver, including RLC filter circuits, mechanical filters, modulator and demodulator circuits, oscillators, RF, IF, and audio circuits. Fifty percent of the time is devoted to signal tracing, alignment, maintenance, and troubleshooting techniques in the laboratory.

Credit Recommendation: In the vocational certificate category, 2 semester hours in introduction to digital circuits and 2 in electronic equipment repair (1/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems (1/82).

NV-1715-1073

FFG-7 AUXILIARY MECHANICAL SUBSYSTEM TECHNICIAN, CLASS C1

Course Number: A-652-0158.

Location: Service School Command, Great Lakes, IL.

Length: 3-5 weeks (120-175 hours).

Exhibit Dates: 1/90–3/92.

Objectives: After 3/92 see NV-1732-0023. To train enginemen to operate and maintain auxiliary mechanical subsystems.

Instruction: Lectures and practical exercises provide the knowledge and skills necessary to operate and maintain the mechanical components of high and low air pressure systems, electronic equipment, cooling water systems, and incinerator equipment on a FFG-7 class ship.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical engineering technology (10/83).

NV-1715-1074

FFG-7 CENTRAL CONTROL STATION MAINTENANCE, CLASS C1

Course Number: A-652-0155.

Location: Service School Command, Great Lakes, IL.

Length: 16 weeks (640 hours).

Exhibit Dates: 1/90–1/91.

Objectives: To train technicians in the theory, maintenance, and repair of a computer-based shipboard control system.

Instruction: Lectures, laboratory work, and practical exercises cover digital logic from basic TTL gates to memories and counters, basic computer mathematics, troubleshooting of electronic control systems and computer circuits, machine language programming, minicomputer organization, and I/O.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic troubleshooting techniques and 2 in electronic troubleshooting laboratory (1/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to minicomputers and machine language programming and 2 in digital logic (1/82).

NV-1715-1075

FFG-7 CLASS SHIP INTERIOR COMMUNICATIONS (IC) SUBSYSTEMS TECHNICIAN

Course Number: A-623-0099.

Location: Service School Command, Great Lakes, IL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide technical knowledge and skills required to perform organizational maintenance on navigation systems.

Instruction: Lectures and laboratory exercises cover the theory of operation, circuitry, and use of technical manuals and schematics in the operation, troubleshooting, and maintenance of electromechanical navigation equipment including servo-controlled gyroscopes.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical system maintenance and 1 in electronic system maintenance (7/95).

NV-1715-1079

GUNNER'S MATE, CLASS A PHASE II

Course Number: A-041-0016.

Location: Service School Command, Great Lakes, IL.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–3/92.

Objectives: After 3/92 see NV-1715-1712. To train technicians in the theory and maintenance of power supplies, digital circuits, and hydraulic controls for gun and missile launching systems.

Instruction: Lectures and exercises cover the theory and practices of AC/DC motors and generators; solid state power supplies; number systems, logic gates, digital arithmetic and circuits, counters, and registers; synchro servos; and hydraulic controls.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital logic and 3 in electromechanical system controls (1/82).

NV-1715-1080

GUN MOUNT 5"/54 MK 45 MAINTENANCE, CLASS C1

Course Number: A-113-0054.

Location: Service School Command, Great Lakes, IL.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–6/90.

Objectives: To train personnel in the maintenance of a gun mount and associated equipment.

Instruction: Group-paced lectures and demonstrations cover operating, testing, and maintaining power distribution systems, PC cards, control and arming circuits, mechanical linkages, and hydraulic systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-1715-1081

TARTAR GUIDED MISSILE LAUNCHING SYSTEM (GMLS) MK 11 MAINTENANCE, CLASS C1

Course Number: A-121-0043.

Location: Service School Command, Great Lakes, IL.

Length: 23-24 weeks (920-960 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train personnel in the maintenance of a guided missile launching system.

Instruction: Lectures and demonstrations cover operating, testing, and maintaining power devices, magnetic amplifiers, firing circuits, mechanical linkages, and hydraulic systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-1715-1082

TARTAR GUIDED MISSILE SYSTEM MK 13 MAINTENANCE, CLASS C1

Course Number: A-121-0044.

Location: Service School Command, Great Lakes, IL.

Length: 24 weeks (960 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train personnel in the maintenance of a guided missile launching system.

Instruction: Lectures and demonstrations cover the operation and maintenance of train and elevation circuits, hoist equipment, hydraulic and lubrication systems, and sensor and control systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-1715-1083

TERRIER GUIDED MISSILE LAUNCHING SYSTEM (GMLS) MK 10 MAINTENANCE, CLASS C1

Course Number: A-121-0046.

Location: Service School Command, Great Lakes, IL.

Length: 20-22 weeks (800-880 hours).

Exhibit Dates: 1/90–2/90.

Objectives: After 2/90 see NV-1715-1526. To train personnel in the maintenance of a guided missile launching system.

Instruction: Lectures and demonstrations cover operating, testing, and maintaining power distribution systems, PC cards, control and arming circuits, mechanical linkages, and hydraulic systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-1715-1085

DATA SYSTEMS TECHNICIAN, CLASS C

Course Number: A-101-0042.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 11-15 weeks (440-600 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To provide students with skills and knowledge necessary to maintain two versions of a general purpose UNIVAC computer.

Instruction: The course offers an in-depth study of both versions of the UNIVAC general purpose computer, including control, arithmetic, memory, and input/output circuitry. Study of the instruction repertoire including detailed operating sequences for each instruction is included. Troubleshooting exercises are used throughout the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer troubleshooting and 2 in computer organization (11/81).

NV-1715-1087

FIRE CONTROL SYSTEM (FCS) MK 92 MOD 2 MAINTENANCE

Course Number: A-113-0080.

Location: Fleet Training Center, Dam Neck, VA; Fleet Training Center, San Diego, CA.

Length: 29 weeks (1087 hours).

Exhibit Dates: 1/90–9/91.

Objectives: After 9/91 see NV-1715-1534. To train technicians in operation and maintenance of computer-controlled gun/missile firing systems.

Instruction: This course covers operation, functional analysis, maintenance, and troubleshooting of gyro-stabilized search and track antenna groups, controls, and displays; radar signal generation and processing; and 32-bit computer operation and I/O, including ASCII data terminal, tape reader/punch, magnetic tape, and interfaces. Other subjects include servo operation, antenna drive and tracking system, AD/DA and synchro/digital signal processing, and use of computer for troubleshooting and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital laboratory, 2 in electronic/digital troubleshooting, and 2 in digital servo systems (5/82); in the upper-division baccalaureate category, 2 semester hours in digital computer systems (5/82).

NV-1715-1088

Basic Solid State Devices, Class F1

Course Number: K-662-0019; A-662-0019.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide fundamentals of solid state theory and basic testing of components.

Instruction: Course covers basic solid state devices and circuits in a classroom environment including demonstrations and laboratory exercises. Diodes, bipolar transistors, UJTs and thyristors are studied as well as conventional circuits such as CE, CB, CC.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic devices (5/82).

NV-1715-1089

Gyro Compass Technician Mk 27 Maintenance, Class C1

Course Number: K-670-2152.

Location: Fleet Training Center, San Diego, CA.

Length: 3 weeks (90 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide personnel with theory and maintenance of the Mk 27 gyrocompass.

Instruction: Course includes gyrocompass theory, operation modes, auxiliary circuits, and gyrocompass maintenance.

Credit Recommendation: In the vocational certificate category, 2 semester hours in gyrocompass theory and laboratory (5/82).

NV-1715-1090

Mechanical Gyro Maintenance and Repair, Class C1

Course Number: A-670-0038.

Location: Fleet Training Center, San Diego, CA.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide personnel with theory of operation and practical training in maintenance and repair of the Mk 14 mechanical gyrocompass.

Instruction: Lectures, demonstrations, and laboratory work covering gyrocompass theory of operation including errors and methods of compensation and the maintenance, calibration, and troubleshooting of mechanical and electrical components.

Credit Recommendation: In the vocational certificate category, 1 semester hour in gyrocompass maintenance and repair (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in gyrocompass theory and operation (5/82).

NV-1715-1091

Integrated Voice Communication System AN/STC-1 Maintenance

Course Number: A-623-0042.

Location: Service School Command, San Diego, CA.

Length: 19 weeks (722 hours).

Exhibit Dates: 1/90–6/91.

Objectives: After 6/91 see NV-1715-1605. To train personnel to operate and maintain the AN/STC-1 integrated voice communications system.

Instruction: Course offers group instruction in voice communication system operation, maintenance, and troubleshooting, including oscilloscope use, digital fundamentals, computer basics, teleprinter operation, tape reader operation, and interfacing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic system troubleshooting and 2 in digital electronics (5/82).

NV-1715-1092

Surface Microcomponent Repair

Course Number: A-100-0056.

Location: Fleet Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, Mayport, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To prepare personnel to repair circuit laminates, encapsulated circuits and shaft encoders, welded lead devices, multilayer devices, and electroplated circuits.

Instruction: Course includes practical training in repairing printed circuit board laminates, conductors, flexible circuits, plastic electronic panels, encapsulated circuits, shafter encoders, static-sensitive devices, welded lead devices, high density multilayer devices, and electroplated materials. Course includes the preventive maintenance of repair station required for Navy certification.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic repair laboratory (5/82).

NV-1715-1093

AN/SPS-49(V) Radar Set Maintenance

Course Number: A-104-0176.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–12/91.

Objectives: After 1/91 see NV-1715-1594. To provide trained personnel to operate and maintain a radar set, using built-in test equipment and other associated test equipment under no supervision.

Instruction: Instruction includes lectures, practical demonstrations, and hands-on operation on maintenance, and troubleshooting of shop mock-ups of the radar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar or electronic systems troubleshooting and maintenance (5/82).

NV-1715-1094

AN/SPA-66 Radar Indicator Maintenance

Course Number: A-104-0178.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide the skills and knowledge necessary to maintain radar indicators.

Instruction: Course includes operation and maintenance of the radar indicator, including regulated power supplies, DC to DC converters, and digital devices for timing, sweep generation, and troubleshooting to the component and system level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in troubleshooting and maintenance (5/82).

NV-1715-1096

AN/SPA-50, AN/SPA-50B Radar Indicator Maintenance

Course Number: A-104-0156.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide electronic technicians with the knowledge and skill necessary to maintain specific radar indicators.

Instruction: Lectures, practical demonstrations, and laboratory work cover digital devices, including A/D conversion; operational amplifiers; circuit operation of power supply, timing, sweep, and display circuits; and operation of controls required to maintain and troubleshoot specific radar indicators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic system maintenance and troubleshooting (5/82).

NV-1715-1097

AN/SPS-65(V)1 Radar Set Maintenance

Course Number: A-104-0179.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide electronics technicians with technical skills and knowledge to operate and perform preventive and corrective maintenance on a radar set.

Instruction: Lectures, practical demonstrations, and laboratory work involve circuit tracing, functional analysis, and fault/failure finding on AC and DC power supplies, transmitters, receiver-processors, and controls of a radar set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic equipment maintenance and troubleshooting (5/82).

NV-1715-1098

AN/SRN-9/18 Satellite Radio Navigation Sets Combined Maintenance

Course Number: A-102-0267.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide the skills and knowledge needed to perform corrective and preventive maintenance on two satellite radio navigation sets.

Instruction: Course provides instruction on the repair and preventive maintenance on the two satellite radio navigation sets. Coverage includes basic digital components, number conversions, computer fundamentals, mnemonic instruction sets, phase modulation, voltage-controlled oscillators, Doppler effect, character generators, and application of the Symbolic Integrated Maintenance Manual in maintaining the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in equipment troubleshooting and repair (5/82).

NV-1715-1099

Fleet Satellite Communications Spectrum Monitor System Equipment

Course Number: A-101-0188.

Location: Fleet Training Center, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in the operation and maintenance of an HP 2100 and HP 8500 series minicomputer system and console.

Instruction: Course provides instruction in the HP 2100 minicomputer with cassette and magnetic tape loader subsystems. Included are subsystems for interfacing, display, and control.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in minicomputer systems (5/82); in the upper-division baccalaureate category, 1 semester hour in minicomputer systems for engineering majors (5/82).

NV-1715-1100

Narrow Band Secure Voice Stand Alone Maintenance

(Narrowband Secure Voice Stand Alone Maintenance)

Course Number: A-101-0156.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide electronic technicians with the skills and knowledge necessary to maintain specialized communications equipment.

Instruction: Lectures, practical demonstrations, and laboratory work cover security and classification procedures, voice-to-digital encoding and decoding, modems, transmitting and receiving digital signals, and maintenance and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical technology communications systems maintenance and troubleshooting (5/82).

NV-1715-1101

ASROC Missile Intermediate Maintenance

Course Number: A-121-0146.

Location: Service School Command, Orlando, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–4/93.

Objectives: To train enlisted personnel in the operation and maintenance procedures for the ASROC missile.

Instruction: Lectures and practical exercises cover the performance of the ASROC missile, including its physical description, interfacing, functional and operational description, installation procedures, and preventive and corrective maintenance.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/83).

NV-1715-1103

Torpedo Mk 46 Mod 5 Intermediate Maintenance

Course Number: A-123-0174.

Location: Service School Command, Orlando, FL.

Length: 12 weeks (420 hours).

Exhibit Dates: 1/90–2/90.

Objectives: To train enlisted personnel in the maintenance of the Mk 46 torpedo and its accessories.

Instruction: Lectures and practical experiences cover the maintenance of the Mk 46 torpedo, including a functional description of each system, assembly, inspection, performance testing, troubleshooting, and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in systems maintenance and troubleshooting or as a technical elective (4/83).

NV-1715-1104

Torpedo Mk 46 Mod 5 Test Equipment Intermediate Maintenance

Course Number: A-123-0175.

Location: Service School Command, Orlando, FL.

Length: 13 weeks (500 hours).

Exhibit Dates: 1/90–7/91.

Objectives: To train personnel in intermediate maintenance for torpedo Mk 46 test equipment.

Instruction: Lectures and practical exercises cover the theory of operation and preventive and corrective maintenance of test sets for exploder wells, gyroscope, cable, after bodies and exercise heads. The course includes a great deal of practical electronic troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in maintenance and electronic troubleshooting (4/83).

NV-1715-1105

Torpedo Mk 48 Mods 1 and 3 Intermediate Maintenance

Course Number: A-123-0140.

Location: Service School Command, Orlando, FL.

Length: 15 weeks (650 hours).

Exhibit Dates: 1/90–3/93.

Objectives: To train fleet personnel in the theory of operation and maintenance procedures for torpedo Mk 48 Mod

Instruction: Lectures and practical exercises cover equipment maintenance, including logistics, safety, troubleshooting, fault isolation, and repair or replacement of parts.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in system maintenance and troubleshooting or as a technical elective (4/83).

NV-1715-1106

Torpedo Mk 48 Mods 1 and 3 Test Equipment Intermediate Maintenance

Course Number: A-123-0141.

Location: Service School Command, Orlando, FL.

Length: 26 weeks (1040 hours).

Exhibit Dates: 1/90–5/91.

Objectives: To provide personnel with the knowledge necessary to perform intermediate maintenance and calibration on test equipment for a torpedo.

Instruction: Instruction includes the theory of operation and laboratory applications of electronic test equipment, including oscilloscope, counter-timer, frequency synthesizer, phasemeter; digital devices, including A/D converters, decoders, multiplexers, RAM, PROM, tristate devices, 8080A microprocessor, and 8228 controller; special devices and circuits, including operational amplifiers, UJT, SCR, LED, and opto-isolators; application of ATLAS programming language; simple binary and BCD arithmetic; study of Honeywell 6/43 minicomputer system; study of 8 inch flexible disk drive; and study of synchro-digital interface equipment. Laboratory work also includes troubleshooting of electronic assemblies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to microprocessors and 2 in electronic troubleshooting (4/83).

NV-1715-1108

Mineman Test Set Repair and Maintenance Training

Course Number: J-647-0018.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 12 weeks (360 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To provide senior minemen with the necessary skills and knowledge maintain mine test equipment.

Instruction: Lectures and practical laboratory exercises cover basic electricity/electronics, including series, parallel, and series-parallel AC and DC circuits and bridge circuits and active circuits using tubes and solid state devices. Troubleshooting and calibrating specific test equipment are also included.

Credit Recommendation: In the vocational certificate category, 6 semester hours in basic electricity/electronics (3/83).

NV-1715-1109

Mineman Supervisory and Advanced Technical Training

Course Number: J-647-0017.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 19 weeks (617 hours).

Exhibit Dates: 1/90–3/93.

Objectives: To provide selected senior enlisted personnel with the necessary skills and related administrative and technical knowledge to perform mine readiness and maintenance.

Instruction: Lectures and laboratory exercises cover the intermediate maintenance of a variety of weapons. Included are exercises in basic electricity and electronics covering series, parallel, and series-parallel circuits, AC and DC circuitry, bridge circuits, rectifiers, and active circuits using tubes and solid state devices. Lectures are conducted on the administration, logistics, safety, quality assurance, work load management, operations, and readiness policies and procedures required by mine shop supervisors and middle managers.

Credit Recommendation: In the vocational certificate category, 3 semester hours in basic electricity/electronics (3/83); in the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to management (3/83).

NV-1715-1110

Fully Automatic Switching Terminal

Course Number: A-130-0267.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 5 weeks (160 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train experienced electronics technicians to perform circuit adjustments, hardware and software maintenance, and troubleshooting and repair an automatic switching terminal.

Learning Outcomes: Upon completion of this course, the student will be able to describe the functions and subsystems of an automatic switching terminal, perform maintenance on digital systems, isolate faults, and repair digital systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital equipment maintenance and repair (8/83).

NV-1715-1112

Synchronous Distributed Processor 2

Course Number: A-130-0250.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–8/93.

Objectives: To train experienced electronic technicians to perform preventive and corrective maintenance on synchronous distributed processor systems.

Learning Outcomes: Upon completion of the course, the student will be able to describe the function of a data processor and distribution subsystem, perform maintenance on digital systems, isolate faults, and repair digital systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital equipment maintenance, troubleshooting, and repair (8/83).

NV-1715-1113

Time Series Acoustic Recall System Maintenance

Course Number: A-130-0246.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 4 weeks (130 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To provide experienced electronics technicians with the necessary background to perform preventive and corrective maintenance on selected digital signal processing units.

Learning Outcomes: Upon completion of the course, the student will be able to perform all necessary preventive and corrective maintenance on selected digital signal processing units and their associated power supplies using the necessary test equipment and technical manuals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic circuit repair and maintenance (8/83).

NV-1715-1114

Ocean Systems Technician Electronic

Course Number: A-130-0114.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–8/93.

Objectives: To provide technicians with the necessary prerequisite subject matter for entrance into specialized equipment courses.

Learning Outcomes: Upon completion of the course, the student will be able to use algebra to solve electric and electronic circuit problems, apply the concepts of Ohm's and Kirchhoff's laws in series and parallel DC and AC circuits, apply digital theory to computer circuits, and apply electronic solid state and vacuum tube theory to functional circuits.

Credit Recommendation: In the vocational certificate category, 4 semester hours in fundamentals of DC and AC circuit analysis, 3 in fundamentals of electronics, and 2 in algebra and trigonometry (8/83); in the lower-division baccalaureate/associate degree category, 4 semester hours in digital circuits and computer fundamentals and 2 in algebra and trigonometry for non—technology majors (8/83).

NV-1715-1117

Aegis Combat System Maintenance Supervisor

Course Number: A-121-0483; S-121-0483.

Location: Naval Systems Department, Moorestown, NJ; Aegis Training Center, Wallops Island, VA.

Length: 7-13 weeks (228-520 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide senior fire control technicians with the knowledge to coordinate repairs, manage system maintenance, and administer system reports.

Instruction: Lectures and practical exercises cover familiarization with the documentation and capabilities of a phased array radar and sonar system, including the computers, consoles, weapon systems, operator duties, and equipment configuration.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (12/88).

NV-1715-1119

AN/WSN-5 Inertial Navigation System Maintenance

Course Number: A-670-0049.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–10/93.

Objectives: After 9/93 see NV-1715-1791. To train personnel to operate, maintain, and troubleshoot an inertial navigation system.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of an inertial navigation system to the circuit card level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic troubleshooting laboratory or 1 in gyrocompass repair (10/83).

NV-1715-1120

Mk 23 Gyrocompass Systems Maintenance

Course Number: A-670-0056.

Location: Service School Command, Great Lakes, IL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–10/93.

Objectives: To train personnel in the operation, maintenance, and troubleshooting of a gyrocompass system.

Instruction: Lectures and practical exercises in the theory and operation of a gyrocompass system, including synchro signal amplifier, gyro principles, AC/DC power supplies and distribution, gravity reference systems, azimuth control, leveling control, compass control, damping control, alarm systems, and course indicators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in synchro and servo control systems and 1 in servo controls laboratory. NOTE: Credit in this course duplicates that found in A-670-0055 (NV-1715-1141). Students should receive credit for one or the other of the courses but not both (10/83).

NV-1715-1122

Terrier AN/SPG-55B Mod 9 Radar Maintenance

Course Number: A-104-0197.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA; Combat Systems Technical Schools Command, Mare Island, CA.

Length: 29-30 weeks (1160-1200 hours).

Exhibit Dates: 1/90–8/91.

Objectives: To provide naval personnel with the technical knowledge and skill necessary to operate and maintain a radar system.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of the AN/SPG-55B radar system, including ship's power distribution, Doppler techniques/systems, servos, and test equipment. Maintenance is performed to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic troubleshooting and 3 in radar fundamentals (11/83).

NV-1715-1123

Replacement Navigation Tender Technician

Course Number: A-193-0310.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To provide naval personnel with the skills and knowledge to perform intermediate level maintenance on navigation subsystems.

Instruction: Lectures and practical exercises cover the appropriate procedures for maintenance of a navigation test set, including printed circuit soldering techniques; use of test equipment including distortion analyzers, wave analyzers, strip chart recorders, voltmeters, computers, and specialized test sets; and repair and maintenance procedures for a sonar navigation set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic equipment maintenance laboratory (11/83).

NV-1715-1124

Radar Set AN/SPG-55B Terrier Operation and Maintenance

Course Number: A-104-0169.

Location: Combat Systems Technical Schools Command, Mare Island, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 29-30 weeks (1160-1200 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To provide naval personnel with the technical knowledge and skill necessary to operate and maintain a radar system.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of the AN/SPG-55B radar system, including ship's power distribution, Doppler techniques/systems, servos, and test equipment. Maintenance is conducted to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic troubleshooting and 3 in radar fundamentals (11/83).

NV-1715-1127

Missile Technician Poseidon
(Missile Technician Poseidon Replacement)

Course Number: A-121-0250.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 18-22 weeks (760-872 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide the skills necessary to troubleshoot and repair a Poseidon missile system.

Instruction: Lectures and practical exercises cover fleet ballistic missile weapon system familiarization, including calibration, preventive maintenance of hydraulic, pneumatic and hydrostatic systems; computer and electromechanical launch systems; and troubleshooting to the module level.

Credit Recommendation: In the vocational certificate category, 1 semester hour in hydraulics (6/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical maintenance and 3 in computer/control systems troubleshooting (6/89).

NV-1715-1128

Fire Control Technician Mk 88 Mod 2 Replacement

Course Number: A-121-0316.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To provide naval personnel with the skills and knowledge to operate, maintain, and repair a missile fire control system and its support equipment.

Instruction: Lectures and practical exercises cover the operation, fault isolation, and module level repair of a computer controlled fire control system, including the power distribution system; the operation, maintenance, and repair of magnetic disk drives; the digital computer network; magnetic tape units; and keyboard and display units; and the servicing and repair of the environmental systems for the missile and its equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in industrial/commercial wiring practices (11/83); in the lower-division baccalaureate/associate degree category, 3 semester hours in data processing equipment maintenance, 2 in digital systems, and 3 in electronic maintenance laboratory (11/83).

NV-1715-1129

Poseidon Trident I Backfit Intermediate Level Fire Control Technician FCS 88 Mod 1/2
(Fire Control Technician Mk 88 Intermediate Level Maintenance)

Course Number: A-121-0317.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 19-20 weeks (800-804 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide electronics technicians with the necessary training to operate and maintain test sets and guidance simulators.

Instruction: Lectures and practical exercises cover the areas of digital electronics, optics, printers, tape readers, wire wrap operations, power supplies, and general control wiring.

Credit Recommendation: In the vocational certificate category, 2 semester hours in optical system maintenance and 1 in wire wrap techniques (6/89); in the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronic troubleshooting and 2 in digital electronic circuitry (6/89).

NV-1715-1131

Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion

Course Number: A-193-0315.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (96 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To train electronics technicians in the repair of navigation computers associated with ESGM backfit navigation systems.

Instruction: Lectures and laboratory exercises cover the technical maintenance of a central navigation computer, including tape equipment, core memories, D/D converters, and navigation systems.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic troubleshooting (11/83).

NV-1715-1132

Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Aids Technician Conversion

Course Number: A-193-0314.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To provide advanced training in the theory and maintenance of extraordinary faults associated with the ESGM backfit navigation system.

Instruction: Lectures and practical exercises cover the advanced theory of electrostatic gyro design principles using fundamentals of physics and mathematics. Electronic and digital troubleshooting of advanced digital systems related to the ESGM is an integral part of the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic and digital troubleshooting and 1 in physics (11/83); in the upper-division baccalaureate category, 2 semester hours in the theory of gyro mechanisms for non—engineering majors (11/83).

NV-1715-1133

AN/SPS-48C Radar

Course Number: A-104-0188.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 26 weeks (1040 hours).

Exhibit Dates: 1/90–11/93.

Objectives: To provide radar technicians with the skills and knowledge to operate, maintain and repair a search radar system used in an automatic target detection system.

Instruction: Lectures and practical exercises in the operation and maintenance of a specialized search radar system including op code and assembly language programming of a UNIVAC 1616 computer system with the inclusion of memory transfers, tape and I/O devices.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting, 3 in computer science or assembly language, 2 in microwave fundamentals (11/83).

NV-1715-1135

Trident I Backfit Missile Technician (MT) Replacement

Course Number: A-121-0329.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 17-18 weeks (696-750 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide naval personnel with the skills necessary to troubleshoot and repair the Trident backfit missile system.

Instruction: Lectures and practical exercises cover the operation, maintenance, and module level repair of the Trident missile system, including strategic weapons system familiarization; missile launch systems and subsystems; support systems; mechanical systems, including hydrostatic, hydraulic, and pneumatic systems; guidance systems; electronic control systems; and the missile control computer.

Credit Recommendation: In the vocational certificate category, 1 semester hour in hydraulics (6/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical maintenance and 3 in computer/control system troubleshooting (6/89).

NV-1715-1136

Plotting System PT-512/S Tactical Display Maintenance

Course Number: *Version 1:* A-623-0037. *Version 2:* A-623-0037.

Location: Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 5 weeks (200 hours). *Version 2:* 5 weeks (200 hours).

Exhibit Dates: *Version 1:* 10/93–Present. *Version 2:* 1/90–9/93.

Learning Outcomes: *Version 1:* To train students to maintain, troubleshoot, and repair a tactical display plotting system. *Version 2:* To train students to maintain, troubleshoot, and repair a tactical display plotting system.

Instruction: *Version 1:* Lectures and practical exercises cover a review of basic electronics and servo systems and full coverage of an electromechanical system, including plotting table, data converter, dead reckoning indicator, and troubleshooting techniques. *Version 2:* Lectures and practical exercises cover a review of basic electronics and servo systems and full coverage of an electromechanical system, including plotting table, data converter, dead reckoning indicator, and troubleshooting techniques.

Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in electromechanical systems (11/95); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical systems (11/95). *Version 2:* In the vocational certificate category, 4 semester hours in electromechanical systems (11/95); in the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical systems (11/95).

NV-1715-1137

AN/URN-25 Afloat TACAN Maintenance

Course Number: A-102-0239.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–12/91.

Objectives: After 12/91 see NV-1715-1587. To train personnel to maintain and repair a specific navigational set, antenna, and antenna group.

Instruction: Lectures and laboratory exercises cover operation, maintenance, and repair of the AN/URN-25 navigational set, including AC/DC power supplies, coder-keyer circuits, receiver transmitter circuits, control indicator circuits, and FSK circuits; the power and monitoring circuits of the OE-273/URN antenna group; and the power, monitoring, and modulation generator circuits of the OE-258/URN antenna.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic troubleshooting (9/83).

NV-1715-1138

Broadcast Control Authority (BCA)
Operational Control Center
Operator

Course Number: A-260-0031.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–1/93.

Objectives: After 1/93 see NV-1715-1778. To train radiomen to operate a data processing system and maintain submarine broadcast equipment at SSIXS shore sites under all operating conditions and without supervision.

Instruction: Lectures and practical exercises cover the hardware configuration and software functions of the AN/USQ-64(V) data processing system and its peripherals, their operation in various modes and differing conditions, and failure handling procedures.

Credit Recommendation: In the vocational certificate category, 2 semester hours in communications equipment operation (9/83); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic equipment operation for broadcast communications (9/83).

NV-1715-1139

Dead Reckoning Analyzer Indicator Mk 10
Mod 0/Dead Reckoning Tracer Mk 6
Mod 4B (DRAI/DRT) Maintenance

Course Number: A-623-0069.

Location: Fleet Training Center, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–9/93.

Objectives: After 9/93 see NV-1715-1787. To provide naval personnel with the technical knowledge and skill necessary to operate and maintain a dead reckoning analyzer and tracer.

Instruction: Lectures and practical exercises cover the fundamentals of electronics, including AC/DC circuits, electronic devices, and digital logic devices; the fundamentals of control transformers, synchros, and resolvers; and the operational procedures, calibration, and circuit checks of both the Mk 10 and Mk 6 equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic devices and 2 in electronic circuit troubleshooting (9/83).

NV-1715-1141

Mk 19 Gyrocompass Systems Maintenance

Course Number: A-670-0055.

Location: Service School Command, Great Lakes, IL.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–10/93.

Objectives: To train personnel in the operation, maintenance, troubleshooting, and repair of a shipboard gyrocompass system.

Instruction: Lectures and laboratory exercises cover the theory and operation of a gyrocompass system, including principles of synchros, servos, and gyros; synchro systems, including signal amplifiers, synchro testers, course indicator, electronic subassemblies, and gyro trainers; DC power supplies (using three phase AC sources); gyro systems, including roll/pitch follow-up, fast erect systems, computer control systems, integrators, damping, accelerometers, speed/tilt systems, and system alarms; and electronic power supplies and special test equipment including the operation of a phase-sensitive voltmeter and a dual channel recorder. Extensive troubleshooting and repair of the system is also included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in synchro and servo control systems and 1 in electronic maintenance and troubleshooting laboratory. NOTE: Credit in this course duplicates A-670-0056 (NV-1715-1120). Students should receive credit for one or the other of the courses but not both (10/83).

NV-1715-1143

Advanced Electronic Warfare Applications

Course Number: A-230-0018.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–6/92.

Objectives: After 6/92 see NV-1715-1687. To provide training to senior personnel in electronic detection and coordination of equipment.

Learning Outcomes: Upon completion of the course, the student will be able to detect, classify, and track targets; coordinate integration of electronic warfare equipment with other weapons systems; originate correspondence to obtain support resources and services; and organize maintenance and training support.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/87).

NV-1715-1144

AN/SLQ-32(V) Presail/Underway Operations
(Electronic Warfare Technician AN/SLQ-32
Operator)

Course Number: A-102-0210.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/90.

Objectives: After 5/90 see NV-1715-1688. To provide personnel with the skills to operate a specific piece of military equipment.

Learning Outcomes: Upon completion of the course, the student will be able to perform electronic warfare presail and underway watch duties aboard an AN/SLQ-32 equipped ship.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/87).

NV-1715-1145

AN/SLQ-32(V)3 Electronic Countermeasures
(ECM) Maintenance

Course Number: A-102-0216.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–12/92.

Objectives: After 12/92 see NV-1715-1655. To provide knowledge and skills required to perform preventive and corrective maintenance on a specific piece of electronic warfare equipment.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation, signal flow, and interconnects of the antenna, power supplies, signal processing, analog/digital conversion, system controls, receiver/transmitter, and computer of a receiver/transmitter system using digital control and signal processing; perform preventive maintenance, alignment, troubleshooting, and repair; and use general and special purpose test equipment including computer generated diagnostic tests.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 2 semester hours in receiver/transmitter digital system maintenance (7/87).

NV-1715-1146

Aviation Electronics Warfare Fundamentals

Course Number: A-102-0301.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–12/92.

Objectives: After 12/92 see NV-1715-1651. To provide the student with knowledge of radar, general aircraft maintenance, aircraft electronic warfare systems, and general purpose test equipment.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate a fundamental knowledge of digital circuits; demonstrate a fundamental knowledge of radar and electronic warfare concepts; and demonstrate a fundamental knowledge of corrosion control, aircraft electrical maintenance, electronic warfare test equipment, transmission lines and antenna concepts, and tangential sensitivity for electronic warfare systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in an electronics elective (7/87).

NV-1715-1147

Aviation Electronics Warfare O Level Maintenance

Course Number: A-102-0299.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–12/92.

Objectives: To provide instruction on a system representative of a countermeasures weapon system.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate a basic knowledge of VHF/LF/HF receivers, frequency measurements, pulse analyzer indicators, direction finding indicators, video and audio recorders, frequency distribution systems and antennas, and testing procedures and maintenance techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems maintenance (7/87).

NV-1715-1149

Aviation Electronic Warfare, Receivers, Analyzer, Recorder and Display Intermediate Level Maintenance

(Aviation Electronics Warfare Intermediate Level Maintenance)

Course Number: A-102-0300.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–1/95.

Objectives: To provide intermediate maintenance instruction on the various items of equipment that comprise an electronic warfare weapons system.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate fundamental knowledge of VHF/UHF/FM receivers, pulse analyzer indicators, and XYZ displays; demonstrate fundamental knowledge of video recorder and recorder/reproducers; and demonstrate appropriate testing and maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems maintenance (1/84).

NV-1715-1150

Countermeasures Set AN/ULQ-6C Maintenance

Course Number: A-102-0233.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–1/94.

Objectives: To provide skill to perform preventive and corrective maintenance on a countermeasures set.

Learning Outcomes: Upon completion of the course, the student will be able to describe operation and signal flow of antenna, power supplies, modulators, RF circuits, video circuits, amplifiers, pulse generators, controls, system interconnects of a radar system and use standard test equipment to maintain, align, troubleshoot, and repair circuits and subsystems of a receiver/transmitter system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in receiver/transmitter system troubleshooting and maintenance (1/84).

NV-1715-1157

Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer

Course Number: A-193-0335; A-193-0435.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide advanced training for technicians in the theory and maintenance of a multiplexer interface buffer.

Instruction: Lectures and laboratory exercises cover the functional description and operation of a computer-controlled multiplexer interface buffer. Clock circuitry, computer interfacing, register and counter operation, multiplexer operation, RAM memory unit, and signal tracing are examined. Laboratory exercises cover troubleshooting and corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in multiplexer/buffer theory and digital circuits laboratory (10/89).

NV-1715-1158

Electrostatically Supported Gyro Monitor (ESGM) Theory and Maintenance

Course Number: A-193-0330.

Location: Submarine School, New London, Groton, CT; Fleet Ballistic Missile Training Center, Charleston, SC; Trident Training Facility, Bangor, Bremerton, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide technicians with training in the theory and maintenance of an analog/digital monitor.

Instruction: Lectures and laboratory exercises cover the physical and functional areas of the equipment which monitors the operating of an electrostatically supported gyro. The student learns the operating characteristics of electromagnetic accelerometers, gyro torque directors, servos, attitude readout circuits, and computer programs for operation and gyro maintenance. Maintenance and troubleshooting procedures are emphasized.

Credit Recommendation: In the vocational certificate category, 2 semester hours in servo control systems and maintenance (10/89); in the lower-division baccalaureate/associate degree category, 1 semester hour in servo control laboratory (10/89).

NV-1715-1170

Trident Missile Technician Replacement

Course Number: A-121-0441.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 21 weeks (659 hours).

Exhibit Dates: 1/90–8/92.

Learning Outcomes: Upon completion of the course, the student will be able to perform routine checkout procedures on Trident Missile launching systems, perform routine maintenance procedures on missile launching system, and troubleshoot missile launching system faults to the board or module level.

Instruction: Lectures and laboratory exercises cover the operation, maintenance, and module level repair of a missile launch system, including its launching equipment; hydraulic systems; power supplies; radiation monitoring equipment; and heating, cooling, and ventilation equipment. The student is given a functional description of the equipment and trained to recognize and interpret faults using flow charts and computer-aided diagnostics to isolate the fault.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electromechanical systems technology (3/89).

NV-1715-1172

Trident Ship Control and Atmosphere Support Technician Level 2

(Trident Ship's Control Level 2)

Course Number: A-623-0081.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 8 weeks (397 hours).

Exhibit Dates: 1/90–6/94.

Objectives: To prepare communications electricians to qualify as maintenance electricians on specific equipment.

Instruction: This is a pipeline course. See NV-1715-1305 (A-623-0084), NV-1715-1306 (A-623-0083), NV-1715-1307 (A-623-0085), and NV-1715-1308 (A-623-0086).

Credit Recommendation: Please refer to the individual exhibits noted above for credit recommendation (2/89).

NV-1715-1173

Trident Ship Control and Atmosphere Support Technician Level 3

(Trident Ship's Control Level 3)

Course Number: A-623-0082.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 8 weeks (432 hours).

Exhibit Dates: 1/90–Present.

Objectives: To prepare experienced communications electricians to maintain and repair specific equipment.

Instruction: This is a pipeline course. See NV-1715-1310 (A-623-0093), NV-1715-1311 (A-623-0114), and NV-1715-1312 (A-623-0113).

Credit Recommendation: Please refer to the individual exhibits noted above for credit recommendation (2/89).

NV-1715-1174

Antisubmarine Warfare (ASW) Module Acoustic Systems

Course Number: J-102-0360.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 14 weeks (490 hours).

Exhibit Dates: 1/90–9/94.

Objectives: To provide training in the operation and repair of submarine detection gear and associated peripheral equipment.

Learning Outcomes: Upon completion of the course, the student will be able to use test equipment and operational procedures to isolate faults and repair equipment; repair equipment to the module level; repair some equipment to the component level; use oscilloscopes, digital voltmeters, and specialized test equipment; and use factory technical literature and diagrams for troubleshooting purposes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic equipment maintenance or instrumentation repair (9/84); in the upper-division baccalaureate category, 2 semester hours in advanced digital systems for non—engineering majors (9/84).

NV-1715-1175

Antisubmarine Warfare (ASW) Support Communications Maintenance Technician

Course Number: J-101-0817.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 13 weeks (520 hours).

Exhibit Dates: 1/90–6/90.

Objectives: After 6/90 see NV-1715-1533. To train personnel in the operation and maintenance of an ASW communications system.

Learning Outcomes: Upon completion of the course, the student will be able to use the teletypewriter, voice security systems, tape recorders, modems, remote antenna control systems, and a communications console; operate the ASW communications system; troubleshoot a multichannel tape recording system; troubleshoot HF/UHF security communications systems; troubleshoot communications data link systems; and troubleshoot ASW support communications systems. All troubleshooting is done to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in data communications, 2 in digital systems analysis, and 3 in electronic equipment maintenance/instrumentation (troubleshooting) (9/84).

NV-1715-1176

Antisubmarine Warfare Operations Center (ASWOC) Radioman
(Antisubmarine Warfare (ASW) Support Communications Operator)

Course Number: J-201-0816.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (210 hours).

Exhibit Dates: 1/90–2/92.

Objectives: After 2/92 see NV-1715-1814. To train radio personnel to operate and coordinate various subsystems of the ASW support communications platform.

Learning Outcomes: Upon completion of the course, the student will understand the principles of high frequency and ultrahigh frequency communications, be familiar with data link and teletype circuits and voice communication systems, and operate the various subsystems of the antisubmarine warfare support communications platform.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in a survey of electronic communications (3/87).

NV-1715-1177

Force High Level Terminal Data Systems Maintenance Technician

Course Number: J-221-0389.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–12/95.

Objectives: After 12/95 see NV-1715-1815. To provide personnel with the technical knowledge and skills necessary to maintain data entry and display equipment for a computer system.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot and repair UNIVAC 2000 data terminal, three types of CRT display terminals, disk storage unit and its controller, data network controller, magnetic tape drive and controller, digital communication interface equipment, digital plotter and printers, and data entry equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital equipment troubleshooting and repair (8/84).

NV-1715-1178

Gun 5"/54 Mk 45 Mod 0 Operational Maintenance

Course Number: J-041-0130.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (105 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide the knowledge and skills required to perform supervised maintenance on a gun mount and its associated equipment.

Learning Outcomes: Upon completion of the course, the student will be able to identify the function and location of the component parts of the Mk 45 gun mount, maintain oil levels and nitrogen pressures, perform prefire and postfire checks, observe all safety precautions, inspect and maintain all parts, and demonstrate smoothness of operation during active firing.

Credit Recommendation: Credit is not recommended due to the limited, specialized nature of the course (10/90).

NV-1715-1179

76mm/62 Caliber Mod 0/1 Gun Operation and Maintenance
(76mm/62 Caliber Mk 75 Mods 0/1 Gun Operation and Maintenance)

Course Number: J-113-0040.

Location: Fleet Training Command, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 9-10 weeks (350 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide the knowledge and skills required to operate, maintain, and repair the 76MM/62 caliber gun mount.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair the Mk 75 Mods 0/1 gun, including mounting systems, barrel cooling system, anti-icing system, weapons control console, hydraulic positioning systems, and electrical/servo systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical laboratory (9/95).

NV-1715-1180

Radar Set AN/SPG-53F (Modified) Operational Maintenance

Course Number: J-113-0108.

Location: Fleet Combat Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (140-160 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train personnel to operate, perform preventive maintenance, isolate faults, and repair a radar set.

Learning Outcomes: Upon completion of the course, the student will be able to operate the radar set without supervision, be familiar with the subsystems of the radar set, recognize a malfunction and perform troubleshooting procedures to isolate a fault, use tools and test equipment to perform adjustments or to replace parts, perform preventive maintenance of the radar set, and perform turn-on and checkout procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical circuits analysis and troubleshooting/maintenance (6/91).

NV-1715-1181

EC-130 Electrical and Instruments Maintenance

Course Number: D-602-0451.

Location: Air Station, Patuxent River, MD.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–11/94.

Objectives: To provide personnel with the knowledge and skills necessary to maintain and troubleshoot the aircraft's electrically operated instrument systems.

Instruction: Lectures and laboratory application cover AC and DC power sources and distribution related to fuel quantity indicating, anti-icing, air conditioning, pressurization, propeller, landing gear, brake, antiskid, and flight control warning systems. Student also learns to understand, operate, and maintain electrically related instruments, including flight director, altitude heading, automatic pilot, inertial navigation, altimeter, and pitot-static systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electrical fundamentals and 3 in instrument familiarization (11/84); in the lower-division baccalaureate/associate degree category, 5 semester hours in electrical systems (11/84).

NV-1715-1182

TACAMO Communication and Avionics System Operation

Course Number: D-050-0412.
Location: Air Station, Patuxent River, MD.
Length: 7 weeks (280 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To provide skills and training necessary to operate a communications system.

Learning Outcomes: Upon completion of the course, the student will be able to operate, under normal conditions, EC-130 TACAMO communications equipment, including VLF, HF, and UHF receivers and transmitters; operate teletype equipment including a printer, tape reader, and a Baudot-Morse converter; make normal adjustments to the frequency time standard; and operate AC power distribution systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/84).

NV-1715-1183

TACAMO Communications System Maintenance

Course Number: D-102-0422.
Location: Air Station, Patuxent River, MD.
Length: 18 weeks (720 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To provide knowledge and skills necessary to troubleshoot and maintain the TACAMO equipment and flight deck avionics.

Learning Outcomes: Upon completion of the course, the student will be able to perform nominal checkout procedures and troubleshoot TACAMO communications systems and EC-130G/Q avionics systems, including power distribution; ULF, HF, VHF, and UHF communications; teletype equipment; and system switching.

Credit Recommendation: In the vocational certificate category, 2 semester hours in introduction to troubleshooting of communications receiver/transmitter systems (11/84).

NV-1715-1184

TACAMO UHF/HF Communications System Intermediate Maintenance

Course Number: D-102-6144.
Location: Air Station, Patuxent River, MD.
Length: 19 weeks (760 hours).
Exhibit Dates: 1/90–11/94.

Objectives: To provide electronics technicians with training in maintenance and repair of communications equipment including troubleshooting using specialized test equipment.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and perform board level repair on the AN/ARC-132 HF receiver/transmitter, AN/ARC-138 UHF transceiver, and AM-658 RF drives and describe the functional operation and perform board level troubleshooting on the CP-970/USQ (8311-13) computer, 7404A data converter, USC-11A data converter, USC-11A data modem, and USC-14 teletype adapter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital system troubleshooting, 2 in RF signal processing and signal tracing, 2 in introduction to digital logic systems (11/84).

NV-1715-1185

TACAMO VLF Communications and Verdin System Intermediate Maintenance

Course Number: D-102-6145.
Location: Air Station, Patuxent River, MD.
Length: 19 weeks (760 hours).
Exhibit Dates: 1/90–2/95.

Objectives: To provide training in the maintenance and repair of a particular communications system.

Learning Outcomes: Upon completion of the course, the student will be able to adjust and operate two specific pieces of equipment and troubleshoot to the board level using typical analog and digital test equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in schematic reading and electronic systems (2/85); in the lower-division baccalaureate/associate degree category, 2 semester hours in troubleshooting of power supplies and 2 in introduction to digital computers, I/O, and programming (2/85).

NV-1715-1186

15G20 Simulator Maintenance, Class C1

Course Number: C-103-2041.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 3 weeks (120 hours).
Exhibit Dates: 1/90–2/95.

Objectives: To provide the skills necessary to perform preventive and corrective maintenance on a radar approach control simulator.

Instruction: Lectures and practical exercises cover the operation of a radar approach control simulator and its various input channels including a very cursory review of microprocessor basics. A majority of the class time is devoted to testing, troubleshooting to a faulty circuit card or chassis-mounted component, and alignment of equipment.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (2/85).

NV-1715-1187

15G21 Carrier Air Traffic Control Simulator Maintenance, Class C1
(15G21 Simulator Maintenance, Class C1)

Course Number: C-103-2042.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 2-3 weeks (104-120 hours).
Exhibit Dates: 1/90–10/92.

Objectives: To provide skills necessary to perform preventive and corrective maintenance on a radar air traffic control shipboard target simulator system.

Instruction: Lectures and practical exercises cover the operation of a radar traffic control shipboard target simulator system and its various input channels including a cursory review of microprocessor basics. A majority of the class time is devoted to testing, troubleshooting, to a faulty circuit card or chassis-mounted component, and alignment of equipment.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (9/89).

NV-1715-1190

AN/AAM-60(V)6 Electro-Optical Test Set Intermediate

Course Number: C-102-4016.
Location: Air Station, North Island, San Diego, CA.
Length: 10 weeks (400 hours).
Exhibit Dates: 1/90–4/95.

Objectives: To train technicians in the repair and maintenance of an electro-optical systems tester.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain an electro-optical system test set at the circuit board and component level. Logic devices covered include gates, multiplexers, decoders, line-drivers, phase-locked loops, CRT display electronics, servo system electronics, and a HP 2108B 16 bit microcomputer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital systems applications, 2 in electronic systems laboratory, and 1 in servo control applications laboratory (4/85).

NV-1715-1191

AN/APS-116 Search Radar and Peculiar Ground Support Equipment Intermediate Maintenance

Course Number: C-102-3679.
Location: Air Station, North Island, San Diego, CA.
Length: 13 weeks (520 hours).
Exhibit Dates: 1/90–4/95.

Objectives: To provide training in the operation and maintenance of search radar and ground support equipment.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate an understanding of the theory of operation of search radar and its ground support equipment and perform circuit analysis, testing, and fault isolation of a radar system and its associated ground support systems, including power supplies, transmitter and receiver systems, antenna systems, discrete digital circuits, linear integrated circuits, video processing circuits, oscilloscopes, frequency meters, function generators, and signal simulators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital electronics systems, 2 in digital electronics laboratory, 2 in linear electronics systems, 2 in linear electronics laboratory, 3 in radar systems, and 2 in radar systems laboratory (4/85).

NV-1715-1192

AN/AQS-13E Sonar Organizational Maintenance

Course Number: C-130-3401.

Location: Air Station, Jacksonville, FL; Air Station, North Island, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train electronics technicians to troubleshoot, repair, and maintain a sonar set at the block-diagram level.

Learning Outcomes: Upon completion of the course, the student will be able to service a military sonar system at the block-diagram level and apply sonar fundamentals to sonar hydrophones and projectors, reeling machines, dome control, azimuth and range indicators, and system power distribution.

Credit Recommendation: In the vocational certificate category, 1 semester hour in sonar repair and maintenance and 1 in sonar repair and maintenance laboratory (4/85).

NV-1715-1193

AN/USM-403 Hybrid Automatic Test Set (HATS) Operator

Course Number: C-198-3676.

Location: Air Station, North Island, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train personnel in the operation of a hybrid automatic test set and to use it to isolate and repair faults to the board level.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a hybrid automatic test set at the block-level, including programmable power supplies, CRT display, thermal printer, Diablo disk drive, and atlas analog.

Credit Recommendation: In the vocational certificate category, 3 semester hours in introduction to computer system repair and maintenance (4/85).

NV-1715-1194

S-3A Computer System Specialist Organizational Maintenance

Course Number: C-102-3681.

Location: Air Station, North Island, San Diego, CA.

Length: 8-9 weeks (340 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train personnel in the maintenance of a general purpose digital computer system.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of a general purpose digital computer system in terms of the main function of the CPU, I/O, and memory subsystem; identify the main functional unit in each subsystem and describe how they interact with other hardware and system software; load and run system diagnostic software; and interpret diagnostic results to isolate system faults.

Credit Recommendation: In the vocational certificate category, 6 semester hours in digital computer maintenance (4/85); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital computer system theory and 2 in digital systems maintenance laboratory (4/85).

NV-1715-1195

SH-3 Communications/Navigation Systems Organizational Maintenance

Course Number: C-102-3403.

Location: Air Station, North Island, San Diego, CA; Air Station, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To familiarize avionics personnel with the principles of operation and repair of communications, navigation, and radar systems of a helicopter.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, repair, and troubleshoot to the block-diagram level systems of a rotary wing aircraft, including UHF communications, search radar, radar altimeter, Doppler, interface, and automatic navigation systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/85).

NV-1715-1196

S-3A Electronic Systems Organizational Maintenance

Course Number: C-102-3676.

Location: Air Station, North Island, San Diego, CA.

Length: 7 weeks (272 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation technicians to maintain an aviation electronic system.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate a working knowledge of system operation and troubleshoot and perform block-diagram level repair to HF/UHF communications systems; sonar, radar, and infrared detection systems; instrument landing systems; electronics countermeasures systems; and inter-aircraft interrogation systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems and 3 in communications systems laboratory (4/85).

NV-1715-1197

SH-60B Automatic Flight Control System Organizational Maintenance

Course Number: C-602-4407.

Location: Air Station, North Island, San Diego, CA; Air Station, Mayport, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation electricians to operate, troubleshoot, repair, and maintain the electrical systems of a helicopter.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, repair, and maintain the the automatic flight control, stability augmentation, digital automatic flight control, and stabilization systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical laboratory and 1 in digital circuit repair (4/85).

NV-1715-1198

SH-60B Light Airborne Multipurpose System (LAMPS) Mk 3 Weapons System Technician Organizational Maintenance

Course Number: C-646-4406.

Location: Air Station, North Island, San Diego, CA; Air Station, Mayport, FL.

Length: 10 weeks (384 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation electronics and antiwarfare technicians to analyze, troubleshoot, and maintain a weapons system.

Learning Outcomes: Upon completion of the course, the student will be able to perform functional level maintenance and troubleshooting on the SH 60B system, including data handling/data display subsystem, communications/navigation subsystem, and a mission equipment subsystem.

Credit Recommendation: In the vocational certificate category, 2 semester hours in spectrum analyzer servicing, 1 in spectrum analyzer applications in circuit analysis, 2 in electronic navigation operation principles and maintenance, and 1 in computer-aided testing techniques (4/85).

NV-1715-1199

Dynamics Alignment Test Set (DATS) Intermediate Maintenance

Course Number: C-198-3680.

Location: Air Station, North Island, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide personnel with the skills necessary to maintain and repair a dynamic alignment test set.

Learning Outcomes: Upon completion of the course, the student will be able to analyze, troubleshoot, and repair 5-15 volt power supplies; 5 IPS read/write assemblies; cassette tube transport modules; and control, memory, counter, and I/O printed circuit boards.

Credit Recommendation: In the vocational certificate category, 6 semester hours in radar maintenance and repair (4/85).

NV-1715-1200

Dynamics Alignment Test Set (DATS) Operator

Course Number: C-198-3679.

Location: Air Station, North Island, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide electronics and ASW technicians with the necessary skills to operate and maintain a dynamic alignment test set.

Learning Outcomes: Upon completion of the course, the student will be able to perform the tasks at the block diagram level, including DATS automatic testing, software analysis, tactical display system alignment, functional testing, and integrated system troubleshooting.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radar maintenance and repair (4/85).

NV-1715-1201

IP-1214/AA Infrared Viewer Intermediate Maintenance

Course Number: C-102-3683.

Location: Air Station, North Island, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train personnel to perform component level maintenance on an infrared viewer.

Learning Outcomes: Upon completion of the course, the student will be able to operate and and perform board level maintenance on the IP-1214/AA infrared viewer and associated test set AN/AAM-60(V)6.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electro-optic applications (4/85).

NV-1715-1202

LN-66HP Radar Intermediate Maintenance

Course Number: C-102-3388.

Location: Air Station, North Island, San Diego, CA; Training Center, Norfolk, VA.

Length: 2 weeks (76 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train aviation electronics and ASW technicians to repair and maintain a radar set.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and perform board level maintenance on the a radar set, including power supply, transmitter/receiver, antenna, and all related circuit boards.

Credit Recommendation: In the vocational certificate category, 2 semester hours in radar repair and maintenance (4/85).

NV-1715-1203

E-2B AN/APS-96 Radar Organizational Maintenance

Course Number: C-104-3475.

Location: Air Station, Miramar, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in the operation and functional system level maintenance of a radar system.

Learning Outcomes: Upon completion of the course, the student will be able to operate, align, and maintain a radar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in radar systems laboratory (5/85).

NV-1715-1204

AN/ASN-39/39A and AN/ASN-41 Navigational Computer Systems Intermediate Maintenance

Course Number: C-102-3040.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in the alignment, troubleshooting, and repair of electromechanical navigational computer systems at the module and component level.

Learning Outcomes: Upon completion of the course, the student will be able to apply the fundamental principles of aircraft navigation to align, test, maintain, and repair electromechanical navigational computing systems using synchros, servos, electronic amplifiers, and various mechanical linkages.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical laboratory (5/85).

NV-1715-1205

Semi-Automatic Checkout Equipment (SACE) with INS/AFCS/ADC/UE Test Benches Intermediate Maintenance

Course Number: C-102-3084.

Location: Air Station, Miramar, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in the operation and maintenance of electronic automatic test equipment.

Learning Outcomes: Upon completion of the course, the student will be able to operate, align, and calibrate semiautomatic test equipment needed for testing various avionics systems; construct test programs to automate a sequence of tests to be performed; and troubleshoot, repair, and maintain such equipment at the module and component levels.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in logic circuits, 2 in digital circuits laboratory, and 2 in electronic circuits laboratory (5/85).

NV-1715-1206

TS-2109/ASA-48 Semi-Automatic Checkout Equipment (SACE) Programmer Intermediate Maintenance

Course Number: C-102-3088.

Location: Air Station, Miramar, San Diego, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in maintaining, troubleshooting, and repairing semiautomatic test equipment.

Learning Outcomes: Upon completion of the course, the student will be able to construct programs for automatic test equipment to generate specific test sequences; understand functional operation and circuits of computer operated equipment interfaced to analog peripherals, including scaling, decoding, comparators, ADC, and counter/timers; and use self test procedures to isolate faults to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital circuit laboratory maintenance/troubleshooting of computerized control equipment and 3 in digital circuits (5/85).

NV-1715-1207

Inertial Platform Test Station (IPTS) Intermediate Maintenance

Course Number: C-102-3096.

Location: Air Station, Miramar, San Diego, CA.

Length: 6-7 weeks (264 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train electronics technicians to perform intermediate level maintenance on the inertial platform test station.

Learning Outcomes: Upon completion of the course, using a computer-controlled inertial platform test station, the student will be able to demonstrate understanding of computer modes, register functions, control words, and instructions; write simple machine language programs; perform diagnostic tests and troubleshooting of subassemblies; and describe function and operation of logic, ADC, power, data entry, interrupts, and inertial measuring unit circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer-controlled test equipment maintenance and operation and 1 in computer-controlled testing laboratory (5/85).

NV-1715-1208

AN/USM-402(V) Swept Frequency Measurement (SWFT Cart) Test Set Intermediate Maintenance

Course Number: C-102-3108.

Location: Air Station, Miramar, San Diego, CA.

Length: 5 weeks (185 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide fleet aviation electronics, antisubmarine, and fire control technicians the basic maintenance skills needed to align, calibrate, and repair the SWFT Cart (swept frequency) Test Set.

Learning Outcomes: Upon completion of the course, the student will be able to use schematic diagrams, logic drawings, and maintenance instruction manuals to identify and correct circuit problems; perform preventive maintenance and calibration on power supplies, frequency analyzers, marker generators, oscilloscopes, and recorders; use standard test equipment to troubleshoot circuits; and troubleshoot solid state and logic circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours (3 in lecture, 1 in laboratory) in electronic systems (5/85).

NV-1715-1209

TS-2109/OA-3739/OA-ASA 48 Semi-Automatic Checkout Equipment (SACE) Operator Intermediate Maintenance

Course Number: C-104-3476.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide instruction in the operation of automatic test equipment used for testing avionics systems.

Learning Outcomes: Upon completion of this course, the student will be able to demonstrate an understanding of theory and actual operating procedures for several test consoles used for the semiautomatic testing of avionics systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (5/85).

NV-1715-1210

ASM-144 On Board Memory Tester Digital Volt Ohmmeter Intermediate Maintenance

Course Number: C-150-3488.

Location: Air Station, Miramar, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide electronics technicians with training in testing and troubleshooting of an onboard memory tester.

Learning Outcomes: Upon completion of the course, the student will be able to describe the purpose, characteristics, operation, and maintenance of memory tester, including component parts (i.e., core memory, digitizer, stimuli generator, power supplies, DVOM and interfacing/switching circuits) and demonstrate understanding of circuit theory/operation and testing of above components through laboratory assignments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital test equipment laboratory and 3 in digital circuits laboratory (5/85).

NV-1715-1211

AN/ASM-33B AN/ASM-122 Portable Module Test (PMT) Intermediate Maintenance

Course Number: C-150-3489.

Location: Air Station, Miramar, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide instruction on the operation and maintenance of electronic test equipment at the board/component level.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and perform board/component level repair of electronic test equipment circuitry, including oscilloscopes, power supplies, horizontal sweep circuits, and vertical deflection circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronics laboratory (5/85).

NV-1715-1213

AN/USM-467 RADCOM Test Station Intermediate Maintenance Course

Course Number: C-198-3030.

Location: Air Station, Miramar, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide the student training in the start-up, self test, and operation of the RADCOM Test Station.

Learning Outcomes: Upon completion of this course, the student will be able to program, boot strap, use diagnostic and self certification programs, test airborne equipment which using the AN/USM-467, and demonstrate a detailed understanding of hardware component function and operation including waveforms and signal levels.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer repair laboratory and 3 in digital computer principles (5/85).

NV-1715-1214

AN/ASN-31/36/92 Inertial Platform Maintenance Technician Intermediate Maintenance

Course Number: C-602-3017.

Location: Air Station, Miramar, San Diego, CA.

Length: 4 weeks (184 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To train electronics technicians in the operation and preventive maintenance of a computerized inertial platform test station and in its use in the testing and repair of inertial platforms.

Learning Outcomes: Upon completion of the course, the student will be able to operate the testing platform in both self testing modes and testing at inertial platforms; understand principles of inertial navigation, inertial platforms, accelerometers, gyroscopes, resolvers, synchros, and other sensors used on inertial platforms including analog and digital circuits; use diagnostic test programs to identify faults and perform alignment/calibration on both the platform tester and inertial platform; and remove and replace failed components such as gyros and resolvers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in avionics maintenance and testing (5/85).

NV-1715-1215

E-2B Navigational Systems Organizational Maintenance

Course Number: C-602-3487.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in the maintenance and operation, at the organizational level, of the E-2B navigational systems.

Learning Outcomes: Upon completion of the course, the student will be able to use publications/diagrams in maintaining and troubleshooting systems and perform operational tests.

Credit Recommendation: In the vocational certificate category, 2 semester hours in avionics laboratory (5/85).

NV-1715-1216

TS-2109/OA-3742/OA-6672 Semi-Automatic Checkout Equipment (SACE) Intermediate Operators

Course Number: C-104-3477.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–3/95.

Objectives: To familiarize the student with the operation and maintenance of the semiautomatic test benches.

Learning Outcomes: Upon completion of the course, the student will be able to operate the programming test console, inertial navigation test console, and universal encoder test console under close supervision.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/85).

NV-1715-1217

C-2A Avionics Systems Organizational Maintenance

Course Number: C-102-3493.

Location: Air Station, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/95.

Objectives: To provide training in the operation and system maintenance of avionics systems.

Learning Outcomes: Upon completion, the student will be able to demonstrate knowledge of component characteristics; operational checks; block-diagram analysis; and troubleshooting techniques for communications systems (intercom, UHF, HF), navigational systems (UHF radio, TACAN, LF/AF direction finder, UHF/ADF, LORAN, OMEGA), and special systems (IFF, radar altimeter, aircraft approach control, flight recorder-locater, weather radar).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in avionics systems (5/85).

NV-1715-1218

RT-542/ASQ, RT-546/ASQ-19, AN/ARC-52 Receiver Transmitter Intermediate Maintenance

Course Number: C-102-3079.

Location: Air Station, El Toro, CA; Air Station, Miramar, San Diego, CA.

Length: 3 weeks.

Exhibit Dates: 1/90–5/95.

Objectives: To provide maintenance personnel with theory of operation, shop test, and system troubleshooting procedures on the transmitter/receivers.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of the receiver/transmitter, signal trace the overall schematic of the system, and align and perform intermediate maintenance on the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems (5/85).

NV-1715-1219

Mk 117 Fire Control System (FCS) Basic Operation

Course Number: A-4E-0059.

Location: Submarine Training Facility, Norfolk, VA; Submarine Training Facility, Charleston, SC; Submarine Training Facility, San Diego, CA; Submarine Training School, Pacific, San Diego, CA; Submarine Base, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (59 hours).

Exhibit Dates: 1/90–6/91.

Objectives: To give a detailed review of the operation and employment of the a fire control system.

Instruction: Course covers operation and employment of the Mk 81 weapon control consoles and the Mk 92 attack control systems. Course includes system theory and software interface.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems interfacing (11/85).

NV-1715-1221

Periscope Type 18 Combined Maintenance

Course Number: A-102-0157.

Location: Submarine Base, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 3 weeks (117 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To provide training in functional checkout, operation, maintenance, and repair of a periscope system.

Instruction: Lectures and laboratory instruction cover the theory of operation, functional analysis and description, logic flow, and maintenance concepts of type 18 periscope system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/85).

NV-1715-1222

Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Combined Maintenance

Course Number: A-623-0108.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (65 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To provide training in functional checkout, operation, maintenance and repair of the Mk 9 Mod 4 dead reckoning analyzer indicator.

Instruction: Lecture and laboratory instruction on synchros, resolvers, control transformers, and servo loops found in the dead reckoning analyzer indicator.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical technology laboratory (11/85).

NV-1715-1223

Mk 19/27 Gyro Operator

Course Number: A-670-0050.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Base, New London, Groton, CT.

Length: 2 weeks (78 hours).

Exhibit Dates: 1/90–8/94.

Objectives: To provide training in the functional checkout and operation of the gyro operator. Students will be instructed in the proper methods of troubleshooting using necessary test equipment.

Instruction: Lectures and laboratory instructions cover flow diagrams and test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical/electronics lab (11/85).

NV-1715-1225

Mk 63 Torpedo Tube Basic Maintenance

Course Number: L-123-0014.

Location: Submarine Training Facility, San Diego, CA.

Length: 2 weeks (70 hours).

Exhibit Dates: 1/90–11/95.

Learning Outcomes: Upon completion of this course, the student will be able to describe the operational characteristics and maintenance requirements for the torpedo tube.

Instruction: Lectures cover the theory of operation and routine maintenance of the torpedo tube. Included topics are air, hydraulic, and ejection systems; safety precautions; troubleshooting; firing procedures; and record keeping. No actual hands-on training is provided due to lack of a trainer.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/85).

NV-1715-1226

AN/UYK-7 Computer Diagnostic Maintenance

Course Number: L-150-0002.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 4-5 weeks (175 hours).

Exhibit Dates: 1/90–11/95.

Objectives: To train personnel to repair, troubleshoot, and maintain the AN/UYK-7 computer using diagnostic tests and procedure guides.

Instruction: The course provides an introduction to AN/UYK-7 computer, functional characteristics of the central processor unit, and functional characteristics of input/output peripherals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer operation theory and 1 in computer operation laboratory (11/85).

NV-1715-1229

1. Integrated Launch and Recovery Television Surveillance
2. CV Air Operations Closed Circuit Television (ILARTS) Maintenance

Course Number: *Version 1:* A-191-0011. *Version 2:* A-191-0011.

Location: *Version 1:* Service School Command, Great Lakes, IL. *Version 2:* Training Center, Great Lakes, IL.

Length: *Version 1:* 18 weeks (692 hours). *Version 2:* 21 weeks (630 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Objectives: *Version 1:* Upon completion of the course, the student will be able to describe base-band video signal generation, processing, and storage and perform preventive and corrective maintenance on robust B/W TV surveillance systems. *Version 2:* Upon completion of the course, the student will be able perform maintenance in low-light level television systems.

Instruction: *Version 1:* Lectures and practical exercises cover technical math, electronic measurement, instrumentation, integrated circuits, amplifiers, and oscillators. Electronic maintenance theory is applied to robust closed circuit TV systems. *Version 2:* Lectures and practical exercises cover the maintenance of shipboard television equipment. Upon successful completion of this course, the student will be able to identify electronic circuit symbols; measure current voltage and resistance; use function generator, DVM, and oscilloscope to isolate a circuit board malfunction down to the component level; analyze resistive/reactive and tuned circuits; and troubleshoot low-light level B/W video cameras, video monitors, video cassette recorders, and reel-to-reel recorders.

Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in TV/VCR repair (12/95); in the lower-division baccalaureate/associate degree category, 4 semester hours in video technology (12/95). *Version 2:* In the vocational certificate category, 4 semester hours in TV/VCR servicing (1/86).

NV-1715-1230

1. Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE)
2. Shipboard Information, Training, and Entertainment (SITE)
3. Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance

Course Number: *Version 1:* A-191-0010. *Version 2:* A-191-0010. *Version 3:* A-191-0010.

Location: *Version 1:* Service School Command, Great Lakes, IL. *Version 2:* Service School Command, Great Lakes, IL. *Version 3:* Training Center, Great Lakes, IL.

Length: *Version 1:* 18 weeks (635 hours). *Version 2:* 18 weeks (643 hours). *Version 3:* 25 weeks (752 hours).

Exhibit Dates: *Version 1:* 10/96–Present. *Version 2:* 10/94–9/96. *Version 3:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of this course, the student will be able to describe the theory associated with the interior communications system with reference to video signal generation, processing, and storage; perform preventive and corrective maintenance on monochrome and color video cameras, receivers, and recorders; and apply the appropriate theory to the operation and maintenance of RF transmission, reception, and distribution systems. *Version 2:* Upon completion of the course, the student will be able to describe base-band video signal generation, processing, and storage; perform preventive and corrective maintenance on black/white and color video cameras, receivers, and recorders; and apply appropriate theory to the operation and maintenance of RF transmission, reception, and distribution systems. *Version 3:* Upon completion of the course, the student will be able to perform maintenance on training and entertainment systems.

Instruction: *Version 1:* This course includes lectures, demonstrations, and performance exercises on basic electricity, basic electronics, and digital systems; monochrome and color video monitors, corrective maintenance of monitors, and advanced theory and maintenance of monitors; color television receivers; operation and maintenance of camcorders; and video signal generation, transmission, and storage. *Version 2:* Lectures and practical exercises cover technical math, circuit schematics, measurement and instrumentation, integrated circuits, amplifiers, and oscillators. Electronic maintenance theory and practice are applied to black/white and color base-band video signal generation, transmission, and storage. *Version 3:* Lectures and practical exercises cover the maintenance of shipboard audiovisual equipment. Upon successful completion of this course, the student will be able to identify electronic circuit systems, measure current, voltage, and resistance; use function generator, DVM, and oscilloscope to isolate a circuit board malfunction down to the component level; analyze resistive and reactive circuits; and troubleshoot color video cameras, video cassette recorders, and reel-to-reel audio recorders.

Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in TV/VCR repair (10/97); in the lower-division baccalaureate/associate degree category, 4 semester hours in communications and telecommunication systems (10/97). *Version 2:* In the vocational certificate category, 4 semester hours in TV/VCR repair (12/95); in the lower-division baccalaureate/associate degree category, 4 semester hours in video technology (12/95). *Version 3:* In the vocational certificate category, 6 semester hours in television/VCR servicing (1/86).

NV-1715-1231

FFG-7 REPLACEMENT CREW TRAINING
(FFG-7 Class Ship Replacement Crew Training)

Course Number: J-113-0162.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train enlisted personnel to understand the interface between the system and its components and to operate display and weapons control consoles of a FFG-7 class guided missile frigate.

Instruction: Lectures and laboratory exercises cover the limitations, capabilities, and operation of a naval tactical data system, including such subsystems as a weapons control console, search radars, sonar, and weapon systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-1715-1232

FFG-7 CLASS COMBAT SYSTEM OFFICER
(FFG-7 Weapons System Officer)

Course Number: J-2E-0155.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train officers in the characteristics, operation, and deployment of a naval tactical data system multiple weapon combat system for the FFG-7 class guided guided missile frigate.

Instruction: Classroom lectures and laboratory exercises cover the limitations, capabilities, and operation of subsystems comprising the weapon system, including radar, sonar, and magnetic inputs, radio communications, and computer control. Laboratory exercises cover operation of all system components in engagement and deployment modes.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (5/89).

NV-1715-1233

ANTISUBMARINE WARFARE (ASW) OPERATIONS CENTER (ASWOC) SYSTEM OPERATOR, CLASS C

Course Number: J-210-0363.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 8 weeks (280-320 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train experienced personnel to operate tactical data processing equipment used in antisubmarine warfare.

Instruction: Training covers various operating modes of data communications video console, including data entry, recall, modify, print, plot, and transfer. Power up/down procedures and operation of a XEBEC disk operating system, Nova 2000 computer, Hazeltine 2000 plotter, and magnetic tape transport are all included. Using software properly, drafting standard naval messages in correct format, and analyzing acoustical data are also covered in this course.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer operator/data processor (11/90).

NV-1715-1234

ANTISUBMARINE WARFARE (ASW) MODULE OPERATOR

Course Number: J-210-0368.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 7-8 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train experienced personnel to operate tactical data processing equipment used in antisubmarine warfare.

Instruction: Operator training covers an antisubmarine warfare system, including such subsystems as video console, tape transport teletype terminal, XEBEC disk operating system, magnetic tape transport, and control panels. Also included are message format procedures, radio telephone operation, software management using utility programs, display aids, and interface characteristics.

Credit Recommendation: In the vocational certificate category, 3 semester hours in computer operations (6/86).

NV-1715-1235

NAVAL TACTICAL DATA SYSTEM INPUT

Course Number: J-221-0094.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–12/96.

Objectives: To train selected naval enlisted personnel in skills related to tactical data collection, system execution procedures, and interpretation of information unique to the mode of operation.

Instruction: Instruction includes lecture and practical applications in a laboratory mock-up environment. Console operations, systems monitoring, tracking, and the duties of the various system operators are the major areas of concentration.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-1715-1236

CV NAVAL TACTICAL DATA SYSTEM INPUT BASIC

Course Number: K-221-0092.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–12/96.

Objectives: To provide junior and middle grade enlisted personnel with training in the operating procedures, capabilities, and limitations of the CV/CVN class ship naval tactical data system.

Instruction: Classroom lectures and laboratory exercises provide the student with a basic knowledge of duties, purposes of various controls and subsystems, and modes of operation and practical applications, using a system mock-up of target tracking equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-1715-1237

ELECTRONIC WARFARE WATCH SUPERVISOR SURFACE

Course Number: J-233-0211.

Location: Fleet Training Group, Western Pacific, Yokosuka, Japan; Fleet Training Group, Pearl Harbor, HI; Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Mayport, FL; Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (140 hours).

Exhibit Dates: 1/90–1/97.

Objectives: To train senior enlisted personnel in the concepts and operational applications of electronic warfare.

Instruction: Lectures cover a broad range of electronic warfare topics, including subject overview; assisting the electronic warfare officer; working knowledge of Soviet naval command, communications, and weapons; allied naval forces weapon capabilities; US naval forces and weapon capabilities; and electronic warfare organization and planning. Laboratory exercises includes assisting the electronic warfare officer in a tactical warfare game.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-1715-1238

TACTICAL SUPPORT CENTER DATA PROCESSING TECHNICIAN
(Antisubmarine Warfare (ASW) Operations Center Data Processing Technician, Class C)

Course Number: J-531-0365.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 9-10 weeks (360-400 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train data processing technicians in the operation of the tactical data processing system utilized by the antisubmarine warfare operations center.

Instruction: Instruction includes formal classroom work and laboratory practice using current publications and equipment. Operation of the UNIVAC 1830A(CP901) computer system (CPU, disk drive, tape drive, printer, monitor), software, data bases, mission support operations, and basic system performance checks are covered.

Credit Recommendation: In the vocational certificate category, 2 semester hours in computer systems operation (3/96).

NV-1715-1239

WEAPON DIRECTION SYSTEM (WDS) MK 14 TERRIER CONSOLE OPERATOR

Course Number: J-113-0134.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (133 hours).

Exhibit Dates: 1/90–12/96.

Objectives: To train officers, warrant officers, and selected naval enlisted personnel in the efficient operation of the Mk 14 weapon direction system.

Instruction: Lectures and practical exercises cover common console operations of a terrier weapon system and the weapon/missile engagement controller. Training is provided under simulated warfare conditions in which equipment capability is reduced.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-1715-1240

1. Optical Landing Systems Maintenance (Optical Landing System Maintenance, Class C1)
2. Optical Landing System Maintenance

Course Number: *Version 1:* C-670-2010. *Version 2:* C-670-2010.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: *Version 1:* 8-11 weeks (356-414 hours). *Version 2:* 8 weeks (312 hours).

Exhibit Dates: *Version 1:* 10/91–Present. *Version 2:* 1/90–9/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and repair the following equipment with minimum supervision above the introductory level: the Fresnel lens optical landing system (FLOLS) Mk 6 Mod 3; the landing signal officer/heads up display (LSO/HUD) Mk 1 Mod 0 ; and the manually operated visual landing aid system (MOVLAS) Mk 1 Mod 2. *Version 2:* Upon completion of the course, the student will be able to operate, maintain, and repair the Fresnel lens optical Landing Mk 6 Mod 1 and the manually operated visual landing systems Mk 1 Mod 1, 2, and 3 or Mk II with minimum supervision.

Instruction: *Version 1:* Lectures and practical exercises in the troubleshooting, maintenance, operation, and repair of the Fresnel lens optical landing system Mk 6 Mod 3, the landing signal officer/heads up display Mk 1 Mod 0, and the manually operated visual landing aid system Mk 1 Mod 2. Topics include electrical and solid state devices, component identification, test equipment, indicator assembly stabilization, stabilization control equipment, reference lighting circuits, and lighting assembly. *Version 2:* Lectures and practical exercises in the troubleshooting and maintenance of the landing system and the manually operated visual landing aid system, including electrical and solid state devices, component identification, test equipment, indicator assembly stabilization, stabilization control equipment, reference lighting circuits, and lighting assembly.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical/electronic circuit theory and 3 in electrical systems troubleshooting and maintenance (1/96). *Version 2:* In the vocational certificate category, 2 semester hours in electricity or electronics theory (6/87); in the lower-division baccalaureate/associate degree category, 2 semester hours in electricity/electronic circuit theory and 3 in troubleshooting procedures (6/87).

NV-1715-1241

Outboard Maintenance Direction Finding (DF) Technician

Course Number: A-102-0327.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 18 weeks (720 hours).

Exhibit Dates: 1/90–4/91.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and perform module level service on the OK-324/SYQ computer, video display, teleprinter, AN/SLR-23 receiver, and AN/SRD-19A receiver.

Instruction: Illustrated lectures, laboratory exercises, and troubleshooting problems are used to teach preventive maintenance, troubleshooting, and corrective maintenance of the Outboard II receiver system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in system troubleshooting and 2 in system operation (7/87).

NV-1715-1242

Communications Technical Controller

Course Number: *Version 1:* A-260-0044. *Version 2:* A-260-0044.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 12 weeks (400-480 hours). *Version 2:* 12 weeks (400-480 hours).

Exhibit Dates: *Version 1:* 6/91–4/96. *Version 2:* 1/90–5/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate cryptographic equipment; troubleshoot, isolate, and identify circuit faults; operate test equipment; perform patch panel operations; perform in-service quality control check; and conduct trend analysis. *Version 2:* Upon completion of the course, the student will be able to operate a communications technical control facility, including organization, administration, reporting, quality control administration, testing, and troubleshooting.

Instruction: *Version 1:* Illustrated lectures, skilled exercise, and laboratories cover technical logs and reports; in-service and out-of-service control tests; DCS reporting; network reporting; troubleshooting; recognition of fault, fault isolation, and system restoration; and watchstanding. *Version 2:* Lecture with audiovisual aids, skilled exercises, and supervised laboratory exercises are used to teach the student the operating procedures of a communications technical control facility.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in telecommunications network manager (2/93). *Version 2:* In the vocational certificate category, 2 semester hours in office procedures and and 2 in communications theory (7/87).

NV-1715-1243

Basic Non-Morse Operator

Course Number: *Version 1:* A-231-0045. *Version 2:* A-231-0045.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 10 weeks (399 hours). *Version 2:* 22 weeks (880 hours).

Exhibit Dates: *Version 1:* 10/91–1/94. *Version 2:* 1/90–9/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to copy Morse code communications in block format at 16 groups per minute with 90 percent accuracy; describe the purpose of operating signals and procedure signs; understand radio wave propagation; explain how atmospheric variations affect radio wave propagation; define terms associated with antennas; define terms and abbreviations associated with modulation and waveform modulation; calculate and measure AM bandwidths; define terms associated with multiplexing; and have a knowledge of satellite and noncommunications systems. *Version 2:* Upon completion of the course, the student will be able to transcribe international Morse code at a rate of 16 groups/minute using a keyboard device and pencil. Student will also be familiar with basic concepts and terminology used in electronic communication and be able to apply these to radio printers, graphical analysis, target analysis, and identification.

Instruction: *Version 1:* Group-paced lectures/laboratory experiments address Morse code, automatic data processing, radio wave propagation, antenna theory, modulation, multiplexing, satellites, and noncommunications systems. *Version 2:* Course includes laboratory instruction in Morse code and classroom instruction covering basic concepts, definitions, terminology, and simple calculations used in electronic communications. Subjects presented include bandwidth, frequency allocation, types of modulation, multiplexing, and antennas.

Credit Recommendation: *Version 1:* In the vocational certificate category, 1 semester hour in Morse code (2/93); in the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications (2/93). *Version 2:* In the vocational certificate category, 3 semester hours in electronic communications principles and 1 in Morse code (7/87).

NV-1715-1244

Telecommunications Operations Specialist

Course Number: *Version 1:* A-260-0043. *Version 2:* A-260-0043.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 5-6 weeks (190 hours). *Version 2:* 6 weeks (233 hours).

Exhibit Dates: *Version 1:* 7/91–8/93. *Version 2:* 1/90–6/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have the knowledge and skills in communications management necessary to perform management tasks under normal and emergency conditions. *Version 2:* Upon completion of the course, the student will be able to apply the concepts and principles of effective writing and office administration.

Instruction: *Version 1:* Group-paced lectures, practical exercises, seminars, and skill exercises cover correspondence, including preparing memoranda, messages, and point papers; budget, staffing, security, and general office management; and familiarization with naval procedures and practices. *Version 2:* Group-paced lectures, practical exercises, seminars, and skill exercises cover budget management, manning requirements, security management, emergency planning, enlisted evaluations, and training.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing and 3 in office management (1/93). *Version 2:* In the lower-division baccalaureate/

associate degree category, 3 semester hours in technical report writing and 3 in office management (7/87).

NV-1715-1245

NARROWBAND SYSTEM OPERATOR (NBS OPS),
CLASS C

Course Number: A-231-0056.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (200 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate a computer-controlled narrowband HFDF system, using a PDP 11/34; several microcomputers; and associated receiving, display, and control equipment.

Instruction: Classroom instruction and laboratory assignments include subsystem function/operation; specific computer coding, syntax, loading, error messages, etc.; and operation of the system in normal and emergency modes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding and 2 in system operation (7/87).

NV-1715-1246

OUTBOARD MAINTENANCE ACQUISITION
TECHNICIAN

Course Number: A-102-0326.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 18 weeks (720 hours).

Exhibit Dates: 1/90–4/91.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and perform module level service on the AN/SYQ-8 signal processing system and AN/SLR-16A computerized receiver.

Instruction: Illustrated lectures, laboratory exercises, and troubleshooting problems are used to teach preventative maintenance, troubleshooting, and corrective maintenance of the Outboard II receiver system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in system troubleshooting and 2 in system operation (7/87).

NV-1715-1247

TACTICAL INTELLIGENCE (TACINTEL)
COMMUNICATIONS SUBSYSTEM
MAINTENANCE
(Tactical Intelligence (TACINTEL) System
Maintenance)

Course Number: *Version 1:* A-102-0237. *Version 2:* A-102-0237.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 10 weeks (332-333 hours). *Version 2:* 12 weeks (473 hours).

Exhibit Dates: *Version 1:* 11/91–6/96. *Version 2:* 1/90–10/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the TACINTEL subsystem (AN/USQ-64(V)5) and troubleshoot the system to the module level. *Version 2:* Upon completion of the course, the student will be able to perform preventative and corrective maintenance on computer-controlled tape recording and reproducing equipment (RD-397/U Recorder-Reproducer) and troubleshoot the system to the module level.

Instruction: *Version 1:* Group-paced lectures and laboratory exercises supported with audiovisual presentations prepare the student to perform corrective and preventive maintenance on the TACINTEL subsystem. Instruction includes topics on electromechanical and electronic theory, digital techniques, principles of operation, and preventive and corrective maintenance techniques. *Version 2:* Group-paced lectures, demonstrations, and lab exercises supported by audiovisual presentations are used to prepare the student to perform corrective and preventative maintenance on a tape recorder/reproducer and troubleshoot the system to the module level.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems maintenance (2/93). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in magnetic recording devices maintenance (7/87).

NV-1715-1248

BASIC SIGNALS ANALYST
(Intermediate Non-Morse Analyst)

Course Number: *Version 1:* A-232-0060. *Version 2:* A-232-0060.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 16-17 weeks (640 hours). *Version 2:* 12 weeks (480 hours).

Exhibit Dates: *Version 1:* 5/91–Present. *Version 2:* 1/90–4/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the trainee will apply principles, rules, and concepts necessary to solve given problems and situations. The trainee will be able to describe the theory necessary to support the performance of operational tasks without the use of detailed logic or circuit diagrams. *Version 2:* Upon completion of the course, the student will be able to use various display and measuring devices, including oscilloscopes, spectrum analyzers, other visual display instruments, frequency counters, multiplexers, receivers, and magnetic recording devices. A fundamental knowledge of AC and communications is a required part of the outcomes.

Instruction: *Version 1:* This group-paced course uses audiovisuals and laboratory exercises to support topics such as mathematics, radio wave propagation, antenna selection, antenna theory, and modulation techniques. Also covered are satellite systems, receiver theory, R-2174 radio receiver, MD-976UR turntable demodulator, WJ-8618 B VHF/UHF receiver, TEK-7603 oscilloscope, HP-3562 signal analyzer, and the HP-3964A tape recorder. *Version 2:* This group-paced course uses lectures, slides, video cassettes, and lab exercises to instruct the student in the use of oscilloscopes and other display devices used in the reception, processing, and analysis of non-Morse Code signals.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in technical mathematics (5/95); in the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in theory of electronic communications (7/87).

NV-1715-1250

ELECTRONIC WARFARE TECHNICIAN WLR-1H
MAINTENANCE

Course Number: A-102-0217.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 10 weeks (355 hours).

Exhibit Dates: 1/90–7/91.

Learning Outcomes: After 7/91 see NV-1715-1648. Upon completion of the course, the student will be able to operate, calibrate, analyze failures, troubleshoot, and repair electronic warfare equipment using functional diagrams, schematics, built-in test equipment, and standard test equipment such as VOMS and oscilloscopes.

Instruction: Classroom instruction and supervised laboratory activities cover the functional description and operation of controls, displays, and indicators; functional description of system, subsystems, and interfaces, including antennae, built-in test equipment, video displays, amplifiers, and power supplies; and preventive and corrective maintenance with fault identification through situational questions and laboratory exercises.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic system operation and maintenance (7/87).

NV-1715-1251

FLEET ELECTRONIC SUPPORT MAINTENANCE, CLASS
C1

Course Number: A-102-0285.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (232-234 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: Upon completion of the course, the student will be able to operate systems, subsystems, and equipment related to field electronic support; align, calibrate, adjust the equipment; and locate and replace faulty components. The level at which this can be done depends on availability of technical information and policy.

Instruction: Classroom lectures, demonstrations, and hands-on laboratories cover a variety of electronic, digital, and microprocessor-based systems, including cable and antenna testing; RF/VHF signal management and distribution; audio processing, switches, speakers, and amplifiers; LANs; and EEE 488 interfaces. Both knowledge and performance testing is done.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic system maintenance (1/93).

NV-1715-1252

ELECTRONIC TECHNOLOGY, CLASS A1

Course Number: A-102-0214.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 19 weeks (1024 hours).

Exhibit Dates: 1/90–6/92.

Learning Outcomes: After 6/92 see NV-1715-1658. Upon completion of the course, the student will be able to maintain specialized electronic equipment.

Instruction: Classroom instruction and laboratory exercises cover basic soldering and connector repair, DC and AC circuits, linear power supplies, transistor amplifiers, superheterodyne receivers, timing and display circuits, RF transmission and antenna control systems, and digital logic and computer fundamentals.

Credit Recommendation: In the vocational certificate category, 3 semester hours in solid state electronics and 3 in digital electronics (7/87); in the lower-division baccalaureate/associate degree category, 1 semester hour in soldering and connector repair, 3 in DC circuits, 3 in AC circuits, 3 in electronic communications fundamentals, and 3 introduction to microcomputers (7/87).

NV-1715-1254

Electronic Technology, Class A1

Course Number: A-102-0234.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 19 weeks (1096 hours).

Exhibit Dates: 1/90–6/92.

Learning Outcomes: After 6/92 see NV-1715-1685. Upon completion of the course, the student will be able to maintain specialized electronic equipment.

Instruction: Classroom instruction and laboratory exercises cover basic soldering and connector repair, DC and AC circuits, linear power supplies, transistor amplifiers, superheterodyne receiver, timing and display circuits, RF transmission and antenna control systems, and digital logic and computer fundamentals.

Credit Recommendation: In the vocational certificate category, 3 semester hours in solid state electronics and 3 in digital electronics (7/87); in the lower-division baccalaureate/associate degree category, 1 semester hour in soldering and connector repair, 3 in DC circuits, 3 in AC circuits, 3 in electronic communications fundamentals, and 3 in introduction to microcomputers (7/87).

NV-1715-1256

1. High Frequency Direction Finding (HFDF) Hardware Maintenance
   (High Frequency Direction Finding (HFDF) Maintenance)
2. High Frequency Direction Finding (HFDF) Maintenance

Course Number: *Version 1:* A-102-0305. *Version 2:* A-102-0305.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 19 weeks (768 hours). *Version 2:* 19-20 weeks (800 hours).

Exhibit Dates: *Version 1:* 2/97–Present. *Version 2:* 1/90–1/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the entire AN/FSQ-123 narrowband system and on portions of the AN/FSQ-117 wideband system used for crosshair communications and direction finding. *Version 2:* Upon completion of the course, the student, with access to reference material, tools, and test equipment, will be able to power up, tune up, and troubleshoot a narrowband system.

Instruction: *Version 1:* This course consists of group-paced lectures, demonstrations, and laboratory exercises on preventive maintenance on the DEC PDP-11 computer system and peripherals, PDP-11/34 hardware/operation, preventive maintenance and troubleshooting of computer systems and peripherals to the lowest replaceable unit, DEC power supplies; systems operation and diagnostics, and power/timing distribution. *Version 2:* Group-paced lectures, practical exercises, and laboratory performance use chalk board and standard audiovisual equipment to cover power and timing distribution, boot verification and reload procedures, and power up/down procedures.

Credit Recommendation: *Version 1:* In the vocational certificate category, 6 semester hours in electronic systems troubleshooting and maintenance (2/98). *Version 2:* In the vocational certificate category, 6 semester hours in electronics maintenance laboratory (1/93).

NV-1715-1257

Naval Security Group Maintenance Management System Application Analyst
(Master Cryptologic Systems Technician)

Course Number: A-230-0019.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4-5 weeks (146-160 hours).

Exhibit Dates: 1/90–10/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform effectively at the middle management level as a supervisor of technical operations.

Instruction: Group instruction and laboratory assignments cover office management, report preparation, safety, budget, supply, staffing, change proposals, and security for cryptologic facilities.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1715-1258

Advanced Signals Analyst
(Senior Non-Morse Analysis)

Course Number: *Version 1:* A-232-0058. *Version 2:* A-232-0058.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 24 weeks (640-960 hours). *Version 2:* 24 weeks (640-960 hours).

Exhibit Dates: *Version 1:* 4/91–Present. *Version 2:* 1/90–3/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the trainee will be able to apply principles, rules, and concepts necessary to solve given problems and situations. The trainee will be able to describe the theory necessary to support the performance of operational tasks without the use of detailed logic or circuit diagrams. *Version 2:* Upon completion of the course, the student will be able to use spectrum analyzers, receivers, demodulators, and narrow and wide band recording equipment in the collection of non-Morse signal search and analysis.

Instruction: *Version 1:* Group-paced lectures and practical laboratory exercises cover mathematics operations, cryptologic non-Morse search operations, signal modifiers, KH-3202 variable filter, KH-3342 digitally tuned variable filter, HW-1856 fiber-optic CRT viscorder oscillograph, 321AQP5K/BPSK demodulator, 352 PCM bit synchronizer, 2340 modem, and the HP-375 actuator computer system. *Version 2:* Group-paced lectures, practical exercises, and laboratory performance use chalk board and audiovisual equipment. Topics include the study of basic algebra, trigonometry, number systems, Boolean algebra, AC/DC theory, inductive and capacitive reactance, antenna systems, AM and FM modulation, and waveform analysis.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in technical mathematics (2/93); in the lower-division baccalaureate/associate degree category, 3 semester hours in communications theory and 4 in electronic laboratory (2/93). *Version 2:* In the vocational certificate category, 3 semester hours in technical mathematics and 4 in electronic laboratory (7/87); in the lower-division baccalaureate/associate degree category, 3 semester hours in communications theory (7/87).

NV-1715-1259

AN/UYA-4 Display Maintenance Includes Beacon Video Processor

Course Number: A-150-0139.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 23 weeks (920 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, the student will be able to isolate malfunctions and perform preventive and corrective maintenance on display subsystems equipment and components, including power supplies and video processors at the lowest component replacement level and apply the theory of logic gates, amplifiers, waveform generators, and counters to troubleshooting and diagnosis of malfunctions.

Instruction: Classroom lectures and discussions cover the display system components, block diagrams, and circuits. Practical exercises use electronic diagnostic instruments for finding and replacing defective parts and for checking the proper operation of the system. The course is a combination of several discrete courses involving various display systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1260

CGN/SM-2 Medium Range Missile System Technician

Course Number: A-121-0508.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 11 weeks (440 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, the student will be able to prepare a shipboard missile system for operation; operate the system; test the system for faults;, and maintain, troubleshoot, and repair the system.

Instruction: Classroom lectures and practical exercises cover the missile system. Topics covered include data entry of combat information, operation of test control station, signal flow tracing, fault isolation procedures, and software diagnostic aids.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 2 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1261

AN/UYK-7 DD-963 COMPUTER/PERIPHERAL TECHNICIAN

Course Number: A-150-0109.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 25 weeks (1000 hours).

Exhibit Dates: 1/90–10/91.

Learning Outcomes: After 10/91 see NV-1402-0215. Upon completion of the course, the student will be able to operate an AN/UYK-7 computer; write machine language programs for the computer; use software diagnostic aids; troubleshoot and repair computer; and troubleshoot and repair specific digital data converters, I/O control consoles, magnetic tape units, digital-to-analog converters, and data display equipment.

Instruction: Lectures and practical exercises cover the theory and troubleshooting of a general purpose computer and its peripherals. An in-depth understanding of computer operation, instruction repertoire, signal flow, and subsystem logic is presented. The course emphasizes fault isolation to the circuit board or component level using diagnostic programs and basic test equipment. Course also includes topics pertaining to digital data converters, I/O control consoles, magnetic tape units, digital-to-analog converters, and data display equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer organization and architecture, 3 in computer troubleshooting, and 2 in computer peripherals troubleshooting (7/87).

NV-1715-1262

AN/UYK-7 DIGITAL COMPUTER MAINTENANCE

Course Number: A-150-0095.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate the AN/UYK-7 computer, write machine language programs on the computer, discuss interrupt concepts, troubleshoot and repair all parts of computer, and use software diagnostic tape to locate faults.

Instruction: Lectures and practical exercises cover the theory of operation and the maintenance of a general purpose UNIVAC computer. An in-depth understanding of the computer operation, instruction repertoire, signal flow, and subsystem logic is presented. The course emphasizes fault isolation to the circuit board or component level using diagnostic programs and basic test equipment. Topics include function of front panel controls, word format, internal timing and control signals, interrupt processing, theory of instruction execution and register status, input and output timing sequence, and interface characteristics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer troubleshooting and 1 in computer organization and architecture (7/87).

NV-1715-1263

DATA SYSTEMS TECHNICIAN, CLASS A

Course Number: *Version 1:* A-150-0025. *Version 2:* A-150-0025.

Location: *Version 1:* Service Schools Command, Mare Island, Vallejo, CA. *Version 2:* Combat Systems Technical Schools Command, Mare Island, CA.

Length: *Version 1:* 28 weeks (1120 hours). *Version 2:* 32 weeks (1280 hours).

Exhibit Dates: *Version 1:* 7/92–Present. *Version 2:* 1/90–6/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to analyse basic series/parallel circuits both AC and DC; analyse RC and RL circuits including time constants; understand resonance and oscillator circuits; identify logic gates and related circuitry; understand memory theory and computer block diagrams with an emphasis on Intel-based personal computers; perform basic programming functions; identify logic functions such as AND, OR, NAND etc.; understand I/O concepts, basic block diagrams, chaining, and I/O instruction execution; perform basic troubleshooting diagnostics; and describe transistor and diode theory and function, oscillator circuits, silicon control rectifiers, unijunction and field effect transistors, and operational amplifiers. *Version 2:* Upon completion of the course, the student will be able to analyse basic series/parallel circuits both AC and DC; analyse RC and RL circuits including time constants; understand resonance and oscillator circuits; identify logic gates and related circuitry; understand memory theory and computer block diagrams with an emphasis on discrete component CPUs and computers; perform basic programming functions; identify logic functions such as AND, OR, NAND etc.; understand I/O concepts, basic block diagrams, chaining, and I/O instruction execution; perform basic troubleshooting diagnostics; and describe transistor and diode theory and function, oscillator circuits, silicon control rectifiers, unijunction and field effect transistors, and operational amplifiers.

Instruction: *Version 1:* Lectures and laboratory exercises cover basic AC/DC theory; solid state circuitry: rectifiers, amplifiers, and oscillators; number systems; logic circuits; memory theory; and computer programming. This comprehensive course also includes extensive training in the use of laboratory test instruments, troubleshooting to the component level, and soldering techniques. *Version 2:* Lectures and laboratory exercises cover basic AC/DC theory; solid state circuitry: rectifiers, amplifiers, and oscillators; number systems; logic circuits; memory theory; and computer programming. This comprehensive course also includes extensive training in the use of laboratory test instruments, troubleshooting to the component level, and soldering techniques.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in soldering techniques (3/95); in the lower-division baccalaureate/associate degree category, 5 semester hours AC/DC theory, 3 in digital electronics, 3 in microprocessor fundamentals, 3 in solid state circuits, and 3 in electronic systems troubleshooting (3/95). *Version 2:* In the vocational certificate category, 3 semester hours in soldering techniques (7/87); in the lower-division baccalaureate/associate degree category, 4 semester hours in AC/DC theory, 4 in digital electronics, 2 in electronics laboratory techniques, 3 in solid state circuits, and 2 in electronic systems troubleshooting (7/87).

NV-1715-1264

TARTAR WEAPONS DIRECTION SYSTEM MK 13 MOD 4

Course Number: A-121-0493.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive or corrective maintenance on the Mk 13 Tartar weapons direction system; operate the system or an individual piece of equipment in the system; conduct daily system operability tests and identify the computer complex in the system; and use electronic equipment such as frequency counter, differential voltmeter, multimeter, and oscilloscope for troubleshooting.

Instruction: Lectures (50 percent) and laboratory exercises (50 percent) cover a description of the equipment, methods of operation, and troubleshooting using electronic test equipment; preventive maintenance exercises using maintenance requirement cards and technical manuals; and laboratory exercises on detecting, isolating, and correcting simulated system malfunctions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic instruments or measurements laboratory and 2 in electronic systems troubleshooting (7/87).

NV-1715-1265

SHIPBOARD NON-TACTICAL AUTOMATED DATA PROCESSING (SNAP)

Course Number: A-150-0250.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–1/93.

Learning Outcomes: After 1/93 see NV-1402-0219. Upon completion of the course, the student will be able to operate the mainframe computer and peripheral equipment comprising the SNAP system, including printers, terminals, and disk and tape drive subsystems; troubleshoot, detect, and isolate faults of items at the field (shipboard) replaceable item parts level; replace and make appropriate adjustments within specified time periods; rapidly identify critical part numbers; restore the system to operational status; and use specialized electronic test equipment such as digital volt meters and dual trace oscilloscopes as well as small hand tools.

Instruction: Classroom instruction (55 percent) and laboratory exercises (50 percent) cover identifying the elements in the SNAP system, running system electrical checks and special diagnostic tests on subsystems, and making adjustments or corrections to simulated malfunctions at the parts level. Students perform test and maintenance tasks in the laboratory within time limits and produce error-free results. Students also interpret error messages resulting from the malfunctions in order to restore the equipment to error-free operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 1 semester hour in electronic measurement and instrumentation laboratory and 3 in computer peripheral troubleshooting and maintenance (7/87).

NV-1715-1266

WDS Mk 14 Communications Tracking Set SYR-1 Maintenance Tartar

Course Number: A-150-0254.

Location: Combat Systems Technical Schools Command, Mare Island, CA.

Length: 21 weeks (840 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, student will be able to write machine language programs for the system computer, use software diagnostics on computer, understand I/O techniques, discuss computer interrupts, troubleshoot and repair computers, troubleshoot and repair antenna systems, and troubleshoot and repair UHF and RF detectors.

Instruction: Lectures and practical exercises cover maintenance and repair of a missile tracking system. Theory and repair techniques of the system components, including antenna, UHF and RF detectors, and computer are also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer organization and architecture, 3 in computer system troubleshooting, and 2 in electronic systems troubleshooting (7/87).

NV-1715-1268

1. 3D Radar Maintenance AN/SPS-52C
2. AN/SPS-52C Radar Set Maintenance

Course Number: *Version 1:* A-104-0181. *Version 2:* A-104-0181.

Location: *Version 1:* Service Schools Command, Mare Island, Vallejo, CA. *Version 2:* Combat Systems Technical Schools Command, Mare Island, CA.

Length: *Version 1:* 22 weeks (880 hours). *Version 2:* 27 weeks (1080 hours).

Exhibit Dates: *Version 1:* 2/92–Present. *Version 2:* 1/90–1/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, test, repair, and maintain the SPS-52C, 3 dimensional radar system. To accomplish this, the student must understand microprocessor operation down to the bit level and be able to work with the advanced electronic concepts required for a high power radar system. *Version 2:* Upon completion of the course, the student will be able to operate the radar in all modes; perform preventive maintenance, align, and adjust using standard procedures; remove/replace assemblies, modules, or components as required to pass appropriate operational checkout procedures; repair selected modules, assemblies, and subassemblies in-place as required to pass appropriate operational checkout procedures; locate and correct malfunctions at the lowest possible replacement unit for shipboard repair; set up and operate general and specialized test equipment; and repair and troubleshoot standard Navy minicomputer.

Instruction: *Version 1:* Instruction comprises both lectures and laboratory exercises integrated into a 22-week long training course. Topics covered in this course include microprocessor computer operations and maintenance including assembly language and timing diagrams, microprocessor I/O operations with recording equipment including radar transmit/receiver equipment (board level maintenance) and electrical distribution diagrams (with 30 power), and appropriate waveguide/antenna theory. *Version 2:* Lectures and practical exercises cover the maintenance and modification of the radar set, including processor/emulator block diagrams, memory diagnostics, I/O diagnostics, AC/DC distribution, macrocomponent functions, and maintenance and repair philosophy.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 5 semester hours in microprocessors and 3 in electronic systems troubleshooting and maintenance (3/95); in the upper-division baccalaureate category, 2 semester hours in advanced computer systems troubleshooting and maintenance (3/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer organization and architecture, 3 in computer troubleshooting, and 3 in electronic systems troubleshooting (7/87).

NV-1715-1269

SSBN Sonar Combined Maintenance

Course Number: A-130-0203.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 15 weeks (597 hours).

Exhibit Dates: 1/90–4/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and perform component level repair and preventive maintenance on submarine sonar equipment.

Instruction: Lectures, demonstrations, and laboratory performance cover safety devices, test equipment, vacuum tubes, solid state analog and digital subsystems of submarine sonar equipment, AM modulation and detection, logic circuits, numbering systems, memory devices, counters, registers, and servo systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital electronics, 2 in analog electronics, and 3 in electronic systems troubleshooting (7/87).

NV-1715-1270

Sonar Auxiliary Equipment Combined Maintenance Revision A

Course Number: A-130-0172.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 21 weeks (840 hours).

Exhibit Dates: 1/90–1/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance on various sonar auxiliary equipment, including communications, receiving, recording, classification, and performance measurement devices.

Instruction: Course includes a nonmathematical review of fundamentals of vacuum tubes, solid state devices, amplifier circuits, oscillators, modulation and demodulation, basic servo systems, fundamental digital numbering systems, digital circuits, common test equipment, as well as procedures used to troubleshoot, to a limited degree, various sonar equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital electronics, 2 in analog electronics, and 3 in electronic systems troubleshooting (7/87).

NV-1715-1271

Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Basic Maintenance (AN/BQQ-5 Combined Basic Maintenance Revision A)

Course Number: A-130-0208.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 16 weeks (475 hours).

Exhibit Dates: 1/90–1/93.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory of operation of the sonar system, perform routine preventive maintenance, operate the sonar system, and perform documented fault isolation procedures.

Instruction: Lectures and laboratory exercises cover the operation and maintenance of sonar system, basic corrective maintenance without going into detailed logic, circuit analysis, or detailed mechanical breakdown of equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting (7/87).

NV-1715-1272

Sonar AN/SQS-35(V) Maintenance

Course Number: K-130-0069.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–10/92.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on a sonar system under limited supervision.

Instruction: Lectures, demonstrations, and performance exercises on the sonar system using troubleshooting and maintenance techniques, technical manuals, and test equipment to repair the equipment to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1273

1. Sonar AN/SQS-53B (Level 2) Maintenance, Class C
2. Sonar AN/SQS-53B Maintenance Level 2

Course Number: *Version 1:* K-130-0282. *Version 2:* K-130-0282.

Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: *Version 1:* 38 weeks (797-1350 hours). *Version 2:* 29 weeks (1040 hours).

Exhibit Dates: *Version 1:* 9/95–Present. *Version 2:* 1/90–8/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain, troubleshoot, and repair sonar system, including transmitters, receivers, power control and distribution system controller, signal/data processor, transducer arrays and interface, and display console. *Version 2:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on sonar system and associated power supply.

Instruction: *Version 1:* Lectures, laboratory, and fault simulation exercises cover the operation, maintenance, troubleshooting, repair, and testing techniques for each subsystem; transmitters, receivers, power control and distribution system controller, signal/data processor, transducer arrays and interface, and display console; and the evaluation of overall system performance. *Version 2:* Lectures and laboratory instruction cover theory of operation, maintenance to module level, review of circuitry, system alignment, and calibration of the sonar system.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic systems troubleshooting and maintenance (10/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1274

Sonar Technician, Class A
(Sonar Technician Submarine STS, Class A)

Course Number: A-130-0029.

Location: Fleet Antisubmarine Warfare Training Center, Pacific, San Diego, CA; Submarine Base, New London, Groton, CT.

Length: 9-10 weeks (311-394 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate Navy submarine sonar systems, recognize and classify sonar targets, perform fire control plotting procedures, and perform submarine noise reduction procedures.

Instruction: Lectures and practical exercises cover topics in underwater acoustics, submarine sonar systems, sonar watchstanding procedures, and underwater fire control.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in fundamentals of underwater acoustics (10/91).

NV-1715-1275

Sonar AN/SQS-26 AXR/CX Maintenance

Course Number: K-130-0047.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 38 weeks (1512 hours).

Exhibit Dates: 1/90–4/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair the sonar system.

Instruction: Lectures and practical exercises cover the operation and maintenance of the AN/SQS-26CX and the AN/SQS-53 sonar detecting-ranging set, including binary mathematics and logic, test equipment, modes of operation, sound propagation, primary power distribution, sonar monitor, block diagrams, fault-locating monitor, mode selection and generation, simulated targets and target control, surface duct programmer and transmitter, B-scan receiver and display, various circuits, variable depression components, range measuring devices, and servos.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1276

Sonar AN/SQS-53 Maintenance

Course Number: K-130-0102.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 34 weeks (1356-1440 hours).

Exhibit Dates: 1/90–11/91.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair a sonar ranging-detecting set.

Instruction: Lectures and practical exercises cover the operation and maintenance of the sonar set. Topics include binary mathematics and logic, test equipment, modes of operation, sound propagation, power distribution, sonar monitor, block diagrams, fault-locating monitor, mode selection and generation, simulated target and target control, surface duct programmer, transmitter, B-scan receiver and display, various circuits, range measuring devices, and servos.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1277

Sonar AN/SQS-26 BX Maintenance

Course Number: K-130-0046.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 27 weeks (1076 hours).

Exhibit Dates: 1/90–9/93.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair the sonar system equipment to the component level, align and calibrate the sonar system, and perform preventive maintenance on sonar systems.

Instruction: Lectures and practical exercises cover the theory of operation, preventive and corrective maintenance, repair, and system alignment of a sonar system and associated power supply. Course includes a review of solid state circuitry and digital logic.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1278

Sonar AN/SQR-17(V)/17A(V) Series Maintenance

Course Number: K-130-0275.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 18 weeks (720 hours).

Exhibit Dates: 1/90–4/96.

Learning Outcomes: Upon completion of the course, the student will be able to isolate faults in the sonar system, repair and replace defective parts, and perform preventive maintenance.

Instruction: Lectures and practical exercises cover the theory of operation and maintenance of a variety of pieces of surface sonar equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1279

Sonar AN/SQQ-23A PAIR Organizational Maintenance

Course Number: K-130-0096.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 29 weeks (1145 hours).

Exhibit Dates: 1/90–9/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance, troubleshoot to the component level, and repair faults in the sonar equipment.

Instruction: Lectures and practical exercises cover the theory of operation of the sonar equipment, a review of solid state circuitry and basic digital electronics, fault isolation, alignment, and calibration of equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (8/87).

NV-1715-1280

Sonar AN/SQQ-28(V) Maintenance

Course Number: K-130-0265.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 16 weeks (638 hours).

Exhibit Dates: 1/90–2/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform diagnostic tests and preventive and corrective maintenance on a sonar signal processing system using specialized test equipment.

Instruction: Lectures, demonstrations, and laboratory exercises cover theory of equipment operation, specialized test equipment, diagnostics, and preventive and corrective maintenance procedures. Review of microprocessor fundamentals, data recording, interfacing, logic analyzing, and computer display is also included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic data processing systems troubleshooting (7/87).

NV-1715-1281

AN/BQQ-5 Consolidated Sonar Maintenance
(Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Advanced Maintenance)
(Sonar Detecting-Ranging Sets AN/BQQ-5 Advanced Maintenance Revision A)

Course Number: A-130-0209.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 30 weeks (895 hours).

Exhibit Dates: 1/90–2/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform advanced maintenance on the sonar systems.

Instruction: Lectures, demonstrations, and laboratory exercises cover the theory of operation, preventive maintenance procedures, fault isolation, and repair procedures of the sonar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1282

Sonar AN/SQS-38 Maintenance

Course Number: K-130-0071.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 17 weeks (670 hours).

Exhibit Dates: 1/90–10/93.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a sonar system and an underwater telephone to the component level and align and perform preventive maintenance on the equipment.

Instruction: Lectures and practical exercises cover the operation and maintenance of the AN/SQS-38 sonar set, WQC2 underwater telephone, and built-in test equipment. Topics include special circuits, power supplies, distribution, transmission signal development; transmitter modules, transducers, and transducer switching; and receiving subsystem, including classification, position-indicator system timing and deflection circuitry, primary cursor generation, and servos.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1283

Sonar AN/SQR-19(V) Maintenance

Course Number: K-130-1108.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 12 weeks (460 hours).

Exhibit Dates: 1/90–2/93.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain the sonar system.

Instruction: Lectures and practical exercises cover the theory of operation of the sonar system, fault isolation, repair procedures, alignment, and calibration of the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1284

Sonar AN/SQR-18A(V)1 Maintenance

Course Number: K-130-1107.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 18 weeks (606 hours).

Exhibit Dates: 1/90–11/92.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance, troubleshooting techniques, repair, alignment, and calibration on a sonar system.

Instruction: Classroom lectures and practical exercises cover digital logic, operational amplifiers, and a thorough study of the particular sonar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital electronics and 3 in electronic systems troubleshooting (7/87).

NV-1715-1285

Independent Variable-Depth Sonar Hoist AN/SQA-13(V) Maintenance

Course Number: K-041-2019.

Location: Fleet Antisubmarine Training Center, Pacific, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–10/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair a hydraulic hoist mechanism.

Instruction: Lectures and practical exercises cover the electronic circuitry and hydraulic mechanisms of the hoist system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in hydraulic systems maintenance (7/87).

NV-1715-1286

AN/WLR-1H(V)1 Combined Maintenance

Course Number: A-233-0061.

Location: Submarine Training Facility, San Diego, CA; Submarine Base, New London, Groton, CT.

Length: 5 weeks (201 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: Upon completion of the course, the student will be able to operate, checkout, maintain, troubleshoot, and repair specific Navy submarine electronic equipment.

Instruction: Instruction includes lectures and practical exercises covering the theory of operation, functional analysis, logic flow, and maintenance procedures. Course also includes radar, superheterodyne receivers, digital electronics, and microprocessors.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (7/87).

NV-1715-1287

LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance Technician

Course Number: K-652-2204.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 4 weeks (159-160 hours).

Exhibit Dates: 1/90–3/94.

Learning Outcomes: After 3/94 see NV-1715-1786. Upon completion of the course, the student will be able to perform electrical/electronic maintenance, troubleshooting, and repair to the component level on a shipboard system used to land helicopters.

Instruction: Lectures and practical exercises cover the electrical/electronic troubleshooting and maintenance of the helicopter landing system. The electrical/electronic circuitry primarily concerns motor control and power.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical/electronic troubleshooting and 1 in electrical control systems laboratory (6/94).

NV-1715-1288

LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance

Course Number: K-652-2205.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (153 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational tasks, preventive and corrective maintenance, and troubleshooting on mechanical components of a shipboard system used to land helicopters.

Instruction: Lectures, demonstrations and practical exercises cover theory, maintenance, and operation of the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in principles of mechanical systems, 1 in principles of hydraulic systems, and 1 in hydromechanical laboratory (3/89).

NV-1715-1289

Gun Fire Control System Mk 86 Radar Group Maintenance

(Gun Fire Control System Mk 86 Radar Group Equipment Maintenance)

Course Number: A-113-0098.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA; Service School Command, Great Lakes, IL; Fleet Training Center, San Diego, CA.

Length: 17 weeks (623 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to maintain a gun fire control system radar group, including the primary power controllers, the SPG-60 air action radar, the SPQ-9A surface search radar, the Mk 2 system, as well as the digital control and interface systems.

Instruction: Students will have completed Fire Control, Class A and receive instruction in theory and practice in the principles of search and tracking radars and the use of tools and proper test instruments necessary to perform operational and diagnostic testing. Student will disassemble, repair, reassemble, and calibrate the Mk 86 radar group.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems maintenance (6/91).

NV-1715-1290

Mk 38 Gun Fire Control System (FCS)

Course Number: K-113-1185.

Location: Fleet Training Center, San Diego, CA.

Length: 7-8 weeks (320 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform planned maintenance on the Mk 38 gun fire control system.

Instruction: Instruction includes lecture and laboratory experiences on all aspects of the Mk 38 gun fire control system. This includes theory, operation, maintenance, and repair using tools and test equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours in principles of radar (7/87); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical/electronic systems troubleshooting and 2 in principles of hydraulic control (7/87).

NV-1715-1291

Mk 37 Gun Fire Control System (FCS)

Course Number: A-113-0109.
Location: Fleet Training Center, San Diego, CA.
Length: 7-8 weeks (320 hours).
Exhibit Dates: 1/90–12/97.
Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the Mk 37 gun fire control system.
Instruction: Instruction includes lectures and laboratory experiences in all aspects of the Mk 37 gun fire control system. This includes theory, operation, maintenance, and repair using tools and test equipment.
Credit Recommendation: In the vocational certificate category, 2 semester hours in fundamentals of radar (7/87); in the lower-division baccalaureate/associate degree category, 1 semester hour in electrical/electronic system troubleshooting and 2 in principles of hydraulic control (7/87).

NV-1715-1292

5"/38 Caliber Gun System

Course Number: K-113-0108.
Location: Fleet Training Center, San Diego, CA.
Length: 7-8 weeks (320 hours).
Exhibit Dates: 1/90–12/97.
Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the 5"/38 Mk 28 gun system.
Instruction: Instruction includes lectures and laboratory practice on all aspects of the Mk 28 gun and hydraulic control system. This includes theory, operation, maintenance, and repair using tools and test equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in principles of hydraulic control (7/87).

NV-1715-1293

16"/50 Caliber Gun System

Course Number: A-113-0111.
Location: Fleet Training Center, San Diego, CA.
Length: 7-8 weeks (320 hours).
Exhibit Dates: 1/90–12/97.
Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain gun turrets under limited supervision.
Instruction: This group-paced course includes lectures and laboratory experiences on the gun turret system using both trainers and live equipment. This includes theory, operation, maintenance, and repair using tools and test equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in principles of electrical systems maintenance, 2 in principles of mechanical systems, and 2 in principles of hydraulic systems (7/87).

NV-1715-1294

Review of Basic Circuit Concepts for Electrician's Mate
(Basic Circuit Concepts)

Course Number: A-652-0134.
Location: Service School Command, Great Lakes, IL.
Length: 1-2 weeks (40-80 hours).
Exhibit Dates: 1/90–3/94.
Learning Outcomes: Upon completion of the course, the student will be able recognize safe electrical practice, analyze AC and DC circuits, interpret circuit diagrams pertaining to solid state devices, analyze operating conditions of simple digital logic circuits, and use the multimeter and oscilloscope for measurements.
Instruction: Classroom lectures and practical exercises cover electrical safety, basic AC and DC circuits, solid state devices, digital logic circuits, and test equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical circuit theory (10/93).

NV-1715-1295

1. Electrician's Mate Surface Ship Electrician Advanced Maintenance
2. Electrician's Mate Advanced Maintenance Training

Course Number: *Version 1:* A-662-0017. *Version 2:* A-662-0017.
Location: Service School Command, Great Lakes, IL.
Length: *Version 1:* 17 weeks (523-524 hours). *Version 2:* 20 weeks (800 hours).
Exhibit Dates: *Version 1:* 5/94–Present. *Version 2:* 1/90–4/94.
Learning Outcomes: *Version 1:* Upon completion of the course, the student will apply the principles of AC and DC networks, and electromechanical and electronic devices and systems to operate and maintain the 150kW motor-generator set, frequency and voltage regulators, solid state motor controllers, and shipboard power distribution. *Version 2:* Upon completion of the course, the student will have a fundamental understanding of how to operate and maintain a 100kW motor-generator and the generator frequency and voltage controller, basic electricity and electronics, solid state theory and application, digital logic theory and application, test equipment application, single and multiphase motors, servo systems, and degaussing system operation and maintenance.
Instruction: *Version 1:* The multimedia, group-paced learning system incorporates extensive use of laboratories in AC/DC circuits, semiconductor theory and application, digital logic and logic circuits, AC and DC motor and generator operation and maintenance, 150kW generator frequency and voltage controller operation and maintenance, degaussing system operations and testing, maintenance and material management, and servo system operation and testing. *Version 2:* This multimedia, group-paced learning system incorporates extensive use of laboratories in AC/DC circuits, semiconductor theory and application, digital logic and logic circuits, AC and DC motor and generator operation and maintenance, 100kW generator frequency and voltage controller operation and maintenance, degaussing systems operations and testing, maintenance and material management, and servo system operation and testing.
Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in motor controller maintenance (12/95); in the lower-division baccalaureate/associate degree category, 4 semester hours in AC and DC networks, 4 in analog and digital electronics technology, and 4 in electromechanical technology (12/95). *Version 2:* In the vocational certificate category, 3 semester hours in solid state electronics and 3 in technical mathematics (6/88); in the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical control, 4 in DC circuits, 4 in AC circuits, and 2 in digital logic (6/88).

NV-1715-1296

1. Interior Communications Surface Ship Electrical Advanced
2. Interior Communications Electrician Advanced Maintenance Training

Course Number: *Version 1:* A-623-0013. *Version 2:* A-623-0013.
Location: Service School Command, Great Lakes, IL.
Length: *Version 1:* 17 weeks (558-559 hours). *Version 2:* 20 weeks (800 hours).
Exhibit Dates: *Version 1:* 5/94–Present. *Version 2:* 1/90–4/94.
Learning Outcomes: *Version 1:* Upon completion of the course, the student will apply the principles of AC and DC networks, electromechanical and electronic devices and systems to maintain communications systems (voice and date), and signal processing, equipment and servomechanisms. *Version 2:* Upon completion of the course, the student will be able to perform maintenance, calibration, troubleshooting, and repair on shipboard electrical equipment, such as communications systems; wind measuring systems; temperature monitoring and salinity measuring systems; and ships logging system, using basic electricity/electronics, solid state theory and application, digital logic theory and application, test equipment application, single and multiphase motors, and servo systems.
Instruction: *Version 1:* This multimedia, group-paced learning system incorporates extensive use of laboratories in AC/DC circuits, semiconductor theory and application, digital logic and logic circuits, servomechanism components and systems, analog and digital signal processing systems, and a review of basic algebra and trigonometry. *Version 2:* This multimedia, group-paced learning system incorporates extensive use of laboratories in AC/DC circuits, semiconductor theory and application, digital logic and logic circuits, AC and DC motor and generator operation, servomechanism components and systems, and a review of basic algebra and trigonometry.
Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in internal communications systems maintenance (12/95); in the lower-division baccalaureate/associate degree category, 4 semester hours AC and DC networks, 4 in analog and digital electronics technology, and 4 in electromechanical technology (12/95). *Version 2:* In the vocational certificate category, 3 semester hours in solid state electronics and 3 in technical math (6/88); in the lower-division baccalaureate/associate degree category, 4 semester hours in DC circuits, 4 in AC circuits, 3 in servomechanisms, and 2 in digital logic (6/88).

NV-1715-1297

Gun Mount 5"/54 Mk 45 Mod 1 Operation and Maintenance

Course Number: A-113-0115.

Location: Service School Command, Great Lakes, IL; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to describe the mechanical, hydraulic, electrical, electronic, and computer systems used in a computer controlled gun system. The student will be able to operate, maintain, and troubleshoot the Mk 45 Mod 1 gun system.

Instruction: Lectures and performance exercises use test equipment to maintain and operate electronic control systems and repair and overhaul mechanical, hydraulic, and pneumatic components to the board level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic maintenance and 2 in electromechanical maintenance (6/91).

NV-1715-1298

Terrier Guided Missile Launching System Mk 10 55C5 Solid State Difference
(Guided Missile Launching System Mk 10 Solid State Control System Difference)

Course Number: A-121-0499.

Location: Service School Command, Great Lakes, IL.

Length: 6 weeks (256 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the electronic, servo-control, and mechanical components of a computer-controlled guided missile launch system. Specifically, the student will troubleshoot electronic problems down to the module level and use flow charts and schematic diagrams to identify and correct mechanical and servo-control problems.

Instruction: Classroom instruction and practical laboratory exercises cover system operation, controls, indicators, readouts, electronic/electrical/mechanical/hydraulic circuits, computer codes, diagnostic problems, and basic safety precautions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical maintenance (6/91).

NV-1715-1299

US Marine Corps Remote Sensor Operator Reserve (Phases 1 and 2)

Course Number: J-243-2014.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and employ ground-based remote sensor equipment.

Instruction: Lectures and demonstrations cover operation, employment, and maintenance of remote sensors and preparation of plans, documents, reports, and messages associated with remote sensor operations.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic security systems and 3 in electronic security implementation, operation, and management (7/88); in the lower-division baccalaureate/associate degree category, 2 semester hours in basic map reading (7/88).

NV-1715-1300

US Marine Corps Remote Sensor Operator

Course Number: BGG; J-243-0941.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5-6 weeks (204-282 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate ground-based remote sensor equipment.

Instruction: Lectures, demonstrations, and practical exercises cover the operation, employment, and maintenance of remote sensors; map reading and interpretation; and preparation of plans, documents, reports, and messages associated with remote sensor operations.

Credit Recommendation: In the vocational certificate category, 3 semester hour in electronic security systems and 3 in electronic security implementation, operation, and management (9/94); in the lower-division baccalaureate/associate degree category, 2 semester hours in basic map reading (9/94).

NV-1715-1301

1. Aegis Display System Operating and Maintenance
2. Aegis Display System Operation and Maintenance

Course Number: *Version 1:* S-150-0238. *Version 2:* A-150-0238; S-150-0238.

Location: Aegis Training Center, Dahlgren, VA.

Length: *Version 1:* 25 weeks (966 hours). *Version 2:* 22 weeks (876 hours).

Exhibit Dates: *Version 1:* 7/93–Present. *Version 2:* 1/90–6/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and repair a computer-based video signal processing system, including displays, computers, communications, power supplies, and cooling equipment; use general purpose and specialized test equipment to isolate system problems to the component and connector pin level; and understand the function of subsystems which make up the system, including digital computer organization, power supplies, CRT circuits, radar circuits, data conversion circuits, and liquid cooling systems. *Version 2:* Upon completion of the course, the student will be able to operate, maintain, and repair a computer-based video signal processing system, including displays, computers, communications, power supplies, and cooling equipment; use general purpose and specialized test equipment to isolate system problems to the component and connector pin level; and understand the function of subsystems which make up the system, including digital computer organization, power supplies, CRT circuits, radar circuits, data conversion circuits, and liquid cooling systems.

Instruction: *Version 1:* Half classroom and half laboratory instruction cover the above topics. *Version 2:* Half classroom and half laboratory instruction cover the above topics.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization, 3 in electronic systems troubleshooting and maintenance, and 3 in computer systems troubleshooting and maintenance (12/88).

NV-1715-1302

1. Aegis Weapon System Mk 7 Operation and Maintenance (CG-47-64)
2. Aegis Weapon System Operation and Maintenance (AN/SPY-1A/B)

Course Number: *Version 1:* S-121-0551. *Version 2:* A-104-0190; A-121-0551; S-121-0551.

Location: Aegis Training Center, Dahlgren, VA.

Length: *Version 1:* 16 weeks (641 hours). *Version 2:* 17 weeks (678 hours).

Exhibit Dates: *Version 1:* 4/94–Present. *Version 2:* 1/90–3/94.

Learning Outcomes: *Version 1:* Upon completion of the course, senior personnel will be able to direct the maintenance operations of the Aegis phased array radar weapon system Mk 7 and its subsystems. *Version 2:* Upon completion of the course, the student will be able to direct the maintenance operations of a phased array radar system; describe the Aegis weapon system and all of its subsystems, including the radar system, radar set, fire control system, and the operational readiness test system; manually initiate fault detection and isolation tests, and evaluate and analyze test results.

Instruction: *Version 1:* This course is divided into units covering the various systems in the Aegis weapon system Mk 7. Each unit covers the general physical and function description, operating theory, maintenance description, basic troubleshooting procedures, and interfacing of each subsystem to each other. The subsystems examined are 400 Hz power supplies, water coolers, dehydrators, computer set, magnetic tape recorders, data processing set, built-in operational test system, computer display consoles, combat display consoles, radar systems, signal processors, transmitter group, antenna group, and Aegis combat systems. *Version 2:* Classroom lectures and practical exercises cover the above topics.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic/electromechanical maintenance and troubleshooting and 3 in computer systems maintenance and troubleshooting (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 2 in computer systems troubleshooting and maintenance (12/88).

NV-1715-1303

1. Radar System AN/SPY-1A Operation and Maintenance (CG-47-58)
2. Aegis Radar System AN/SPY-1A Operation and Maintenance

Course Number: *Version 1:* S-104-0191. *Version 2:* A-104-0191; S-104-0191.

Location: Aegis Training Center, Dahlgren, VA.

Length: *Version 1:* 24 weeks (912 hours). *Version 2:* 24 weeks (908 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 1/90–12/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and maintain a phased array radar system, including high voltage power supplies, cooling systems, computerized control and signal processing systems, microwave transmitter/receivers, and antenna/waveguide structures; use standard and RF-specific test equipment to test, troubleshoot, align, and maintain radar; and understand the function of system components, including power, computer controls, RF signal generation and detection, digital signal processing, and cooling/conditioning equipment. *Version 2:* Upon completion of the course, the student will be able to operate and maintain a phased array radar system, including high voltage power supplies, cooling systems, computerized control and signal processing systems, microwave transmitter/receivers, and antenna/waveguide structures; use standard and RF-specific test equipment to test, troubleshoot, align, and maintain radar; and understand the function of system components, including power, computer controls, RF signal generation and detection, digital signal processing, and cooling/conditioning equipment.

Instruction: *Version 1:* Methods are primarily classroom lecture. One-third of class hours consists of performance-based practical exercises. *Version 2:* Half classroom lecture and half practical exercises cover the above topics.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in digital logic and computer interfacing technology, 4 in radar systems, and 3 in electronic systems troubleshooting and maintenance (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization, 4 in radar systems, and 6 in electronic systems troubleshooting and maintenance (12/88).

NV-1715-1304

Aegis Fire Control System/ORTS Operation and Maintenance

Course Number: A-104-0192; S-104-0192.

Location: Aegis Training Center, Dahlgren, VA.

Length: 25 weeks (907 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: After 12/94 see NV-1715-1750. Upon completion of the course, the student will be able to operate and maintain a complex computer-based weapons control system; troubleshoot computer-based equipment, including interfaces (analog and digital), peripherals, printers, and displays; understand technical manuals incorporating schematics, wiring diagrams, and logic charts; perform alignment procedures using test equipment such as oscilloscopes; and use diagnostic computer programs to localize equipment faults.

Instruction: Lectures and laboratory exercises include theory, operation, routine maintenance, and troubleshooting of a computer-based weapons system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer systems troubleshooting and maintenance, 4 in electronic systems troubleshooting and maintenance, and 4 in computer interface and peripheral systems (12/88).

NV-1715-1305

Remote Pressure/Tank Level/Liquid Airflow Indicating Equipment Maintenance

Course Number: A-623-0084.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay GA.

Length: 2 weeks (77 hours).

Exhibit Dates: 1/90–8/95.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory needed to support corrective, journeyman level maintenance on electronic and mechanical components of remote pressure, tank level, liquid flow, and pneumatic systems using authorized fault isolation and repair procedures.

Instruction: Group-paced lectures and laboratory exercises cover the operation and maintenance of remote pressure indicating equipment, differential pressure tank level indicator, magnetic tank level indicator, airflow indicator equipment, and liquid flow indicator equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in industrial instrumentation laboratory (2/89).

NV-1715-1306

Common Alarm, Temperature Monitoring and Salinity Systems Equipment Maintenance

Course Number: A-623-0083.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (56 hours).

Exhibit Dates: 1/90–6/94.

Learning Outcomes: Upon completion of the course, the student will be able to apply appropriate theory to maintain temperature monitoring, salinity, and common alarm systems found on the Trident submarine.

Instruction: Group-paced lectures and laboratory exercises cover the operation and maintenance of alarm systems, temperature monitoring equipment, and salinity equipment. Maintenance is at the journeyman level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in instrumentation mechanics (2/89).

NV-1715-1307

Atmosphere Support Equipment Maintenance

Course Number: A-623-0085.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (44 hours).

Exhibit Dates: 1/90–4/94.

Learning Outcomes: Upon completion of the course, the student will be able to perform documented corrective maintenance on the Trident control atmosphere monitoring system and the hydrogen detector.

Instruction: Group-paced lectures and laboratory exercises cover the operation and maintenance of a hydrogen detector and an atmosphere monitoring system at the journeyman level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in instrumentation laboratory (2/89).

NV-1715-1308

Ship Control System Maintenance

Course Number: A-623-0086.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 5 weeks (158 hours).

Exhibit Dates: 1/90–5/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform documented corrective maintenance on a ship control system and associated systems at the journeyman level using the necessary test equipment.

Instruction: Group-paced lectures and laboratory exercises cover the operation and maintenance of multiplexer, ship control system, steering and diving control equipment, hovering equipment, missile compensating equipment, and variable ballast and trim equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical laboratory (2/89).

NV-1715-1309

Trident Ship Control and Atmosphere Support Technician Level I

Course Number: A-623-0080.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 9 weeks (372 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance at the apprentice level on specific atmosphere support equipment on board a Trident submarine. Technician will be able to give a general, physical, and written description of the specific equipment on board the Trident submarine for which the student is responsible.

Instruction: Lectures and laboratory exercises cover the theory, maintenance, and operation of the power distribution system, alarm system, valve control equipment, position indication equipment, liquid flow indicator equipment, level indicator, salinity equipment, temperature monitoring equipment, depth detector, public address system, ballast and trim equipment, and position control system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical controls and 3 in industrial instrumentation (mechanical) (2/89).

NV-1715-1310

1. Integrated Announcing System AN/WIC-2B(V) Advanced Maintenance
2. Integrated Announcing System

Course Number: *Version 1:* A-623-0093. *Version 2:* A-623-0093.

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Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 1-2 weeks (68-69 hours). *Version 2:* 2 weeks (69 hours).

Exhibit Dates: *Version 1:* 6/94–Present. *Version 2:* 1/90–5/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the theory to support advanced corrective maintenance using all fault isolation techniques, test equipment, and repair procedures on the integrated announcing system. *Version 2:* Upon completion of the course, the student will be able to apply proper theory to perform corrective maintenance on an integrated announcing system. Student will be able to use all authorized fault isolation, test equipment, and repair procedures.

Instruction: *Version 1:* Lectures and laboratory sessions cover the operation and maintenance of the integrated announcing system. Topics include the use of special tools and equipment to align and calibrate the system. Instruction also covers relays, signal flow, frequencies, modes, inputs/outputs, signal generation, and circuits. *Version 2:* Group-paced lectures and advanced laboratory exercises cover the operation and maintenance of the integrated announcing system. Advanced laboratory exercises include the use of special tools and test equipment used in alignment and calibration after fault identification and correction.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (4/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting (2/89).

NV-1715-1311

Hovering and Missile Compensation and Associated Position Control Units Electrical Maintenance

Course Number: A-623-0114.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform advanced electromechanical maintenance and undocumented troubleshooting on hovering and missile compensation systems and associated position control units.

Instruction: Group-paced lectures and advanced laboratory exercises cover the operation and maintenance of hovering equipment, position control units, and missile compensating equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical systems laboratory (2/89).

NV-1715-1312

Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance

Course Number: A-623-0113.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2-3 weeks (110 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform advanced maintenance and undocumented troubleshooting on steering/diving system, ship control station, and variable ballast and trim associated position control units.

Instruction: Group-paced lectures and advanced laboratory exercises cover the operation and maintenance of ship control station, ballast and trim equipment, steering and diving control equipment, and position control equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electromechanical control laboratory (2/89).

NV-1715-1313

Trident Sonar Subsystem Operation and Maintenance Level 1

Course Number: A-130-0126.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 24 weeks (956 hours).

Exhibit Dates: 1/90–8/94.

Learning Outcomes: Upon completion of the course, the student will be able to perform alignment, operational tests, corrective maintenance, disassembly, repair, and reassembly of sonar subsystems at the apprentice level.

Instruction: Group-paced lectures and laboratory exercises cover the operation, maintenance, and reconfiguration of the sonar subsystems, including the command and control system, detection-tracking group, broadband detection spherical array, broadband detection towed array, passive broadband tracking array, and torpedo detection and classification communications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic communications systems laboratory (2/89).

NV-1715-1314

Trident Sonar Subsystem Operation and Maintenance Level 3

Course Number: A-130-0129.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 8 weeks (288 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform authorized fault isolation and repair at the advanced journeyman level; describe components of the sonar subsystem group; describe the functional interface between the AGC and related external equipment; and describe signal flow frequencies, input/output frequencies, power supplies, and protection devices.

Instruction: Group-paced lectures and advanced laboratory exercises cover the operation and maintenance of sonar subsystems, including the acoustic communications group, depth/sound speed group, depth sounding group, bathythermograph group, and the recorder-reproducer group.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems laboratory (2/89).

NV-1715-1315

Trident Sonar Subsystem Operation and Maintenance Level 2

Course Number: A-130-0127.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 9 weeks (330 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: See individual exhibits for learning outcomes. This is a pipeline course.

Instruction: See exhibits NV-1715-1316 (A-130-0131), NV-1715-1319 (A-130-0132), NV-1715-1318 (A-130-0307), NV-1715-1317 (A-130-0305), and NV-1715-1320 (A-130-0306).

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (2/89).

NV-1715-1316

AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance

Course Number: A-130-0131.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (62 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to adhere to personnel and equipment safety precautions while performing corrective maintenance, troubleshoot using advanced diagnostic methods, and isolate faults which cannot be located using prescribed maintenance documentation.

Instruction: Group-paced lectures and advanced laboratory exercises cover the functional operation and maintenance of the spherical array passive beamforms preamplifier, filter, equalizer, clipper, and spherical array hydrophone.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic communications laboratory (2/89).

NV-1715-1317

AN/BQQ-6 Group A Primary Power Control (PCC)/SSDC Advanced Maintenance

Course Number: A-130-0305.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (52 hours).

Exhibit Dates: 1/90–1/95.

Learning Outcomes: Upon completion of the course, the student will be able to describe authorized techniques to isolate faults/failures which cannot be located using standard procedures, recognize and interpret malfunctions, and repair the equipment.

Instruction: Group-paced lectures and advanced laboratory exercises cover the functional operation of the primary power control and units of the detection-tracking group.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 1 semester hour in electronic troubleshooting laboratory (2/89).

NV-1715-1318

AN/BQQ-6 Group A Multipurpose Interface Unit Digital Spectrum Analyzer Advanced Maintenance

Course Number: A-150-0307.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (56 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to recognize and interpret malfunctions, use authorized techniques to isolate faults/failures which cannot be located using procedures contained in prescribed maintenance documentation, and repair the equipment.

Instruction: Group-paced lectures and advanced laboratory exercises cover the functional operation and maintenance of the multipurpose interface unit and digital spectrum analyzer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic communications laboratory (2/89).

NV-1715-1319

AN/BQQ-6 Sonar Set Detection Tracking

Course Number: A-130-0132.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a sonar set at an advanced level.

Instruction: Group-paced lectures and advanced laboratory exercises cover the fault isolation and repair procedures on the sonar detection-tracking group control display console.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting laboratory (2/89).

NV-1715-1320

AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance

Course Number: A-130-0306.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair electronic equipment at an advanced level.

Instruction: Group-paced lectures and advanced laboratory exercises over specialized electronic equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting laboratory (2/89).

NV-1715-1321

Fire Control System Mk 98 Mod 0 Maintenance Procedures
(Fire Control System Advanced Maintenance)

Course Number: A-121-0436A.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (63 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform documented repair procedures on weapons system interconnections and troubleshoot and repair fire control system faults.

Instruction: Lectures and laboratory exercises cover nonroutine maintenance of fire control system software and hardware.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial electronics laboratory (4/96).

NV-1715-1322

1. Fire Control System Mk 98 Mod O Advanced Operations
2. Fire Control System Mk 98 Mod O Rev A Advanced Operations

Course Number: *Version 1:* A-121-0431A; A-121-0431. *Version 2:* A-121-0431.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 3-4 weeks (77-78 hours). *Version 2:* 3 weeks (76 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/90–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the characteristics, capabilities, and functional operation and interfaces of all subsystems of the fire control system and operate the system. *Version 2:* Upon completion of the course, the student will be able to describe characteristics, capabilities, and functional operation and interfaces of all subsystems of the fire control system and operate the system.

Instruction: *Version 1:* Lectures and laboratory exercises cover the description and operation of the fire control system. *Version 2:* Lectures and laboratory exercises cover the description and operation of the fire control system.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial electronics laboratory (4/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in industrial electronics laboratory (2/89).

NV-1715-1323

Launcher Control Group Mk 13 Mod O Advanced

Course Number: A-121-0452.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (52 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use special tools to perform fault isolation and corrective maintenance on the equipment of the launcher control group.

Instruction: Lectures and laboratory activities cover basic theory, functions, operation, and maintenance procedures of the launcher control group. Instruction covers schematic diagrams, system test modes, control logic, signal flow, and sequential operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronics technology (2/89).

NV-1715-1324

Controllers and Circuit Breakers Combined Maintenance

Course Number: *Version 1:* A-662-0108. *Version 2:* A-662-0108.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 11/94–Present. *Version 2:* 1/90–10/94.

Learning Outcomes: *Version 1:* This version is pending evaluation. Upon completion of the course, the student will be able to perform preventive and corrective maintenance on electrical controllers and circuit breakers used on submarines. *Version 2:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on electrical controllers and circuit breakers used on submarines.

Instruction: *Version 1:* This version is pending evaluation. Lectures and laboratory instruction cover operation, maintenance, and fault detection for high voltage circuit breakers, motor controllers, and switch gear. *Version 2:* Lectures and laboratory instruction cover operation, maintenance, and fault detection for high voltage circuit breakers, motor controllers, and switch gear.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electrical technology laboratory (2/89).

NV-1715-1325

Basic Electronics Test Equipment

Course Number: A-198-0054.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2 weeks (54-57 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate basic electronic test equipment to measure electrical values.

Instruction: Theory and laboratory exercises cover basic electronic test equipment with topics on analog and digital multimeters, oscilloscopes, power supplies, transistor testers, generators, impedance meters, and AC/DC differential voltmeters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic instruments laboratory (4/97).

NV-1715-1326

Mk 118 Fire Control System Basic Maintenance

Course Number: A-130-0232.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 3 weeks (99 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic preventive/corrective maintenance on a fire control system.

Instruction: Lectures and laboratory exercises cover the theory, operation, and maintenance of power supplies, and power distribution and firing circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer control/interfacing techniques laboratory (2/89).

NV-1715-1327

OCEAN SYSTEMS TECHNICIAN MAINTAINER, CLASS A

Course Number: J-130-0295.

Location: Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 31-32 weeks (1223 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to solve algebra and trigonometric problems, solve AC and DC passive circuits and devices, analyze solid state circuits and devices, analyze digital circuits and devices, use basic laboratory instruments, and troubleshoot electronic systems.

Instruction: Lectures and practical exercises cover basic electronics and specific military systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in AC circuits, 2 in basic electronics laboratory, 3 in solid state electronics, 2 in digital principles, and 3 in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1328

AN/SRQ-4 LIGHT AIRBORNE MULTIPURPOSE SYSTEM (LAMPS) MK 3 MAINTENANCE

Course Number: A-101-0209.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 4 weeks (133-160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, operate, and maintain a data link transceiver under operational conditions at the organizational level.

Instruction: Instructional methods include lectures and supporting laboratories in analyzing, locating, and correcting faults using such equipment as spectrum analyzers, oscilloscopes, and digital multimeters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (4/91).

NV-1715-1329

COMMUNICATIONS MAINTENANCE, CLASS C

Course Number: J-130-0267.

Location: Fleet Antisubmarine Training Center, Norfolk, VA.

Length: 7-8 weeks (288 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and repair a secure data relay system, an automatic switching terminal, and teletype equipment.

Instruction: Instruction includes lectures and supporting laboratories in analyzing, locating, and repairing faults to the board level on several complex electronic systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1330

MICROMINIATURE ELECTRONICS REPAIR

Course Number: *Version 1:* A-100-0073. *Version 2:* A-100-0073.

Location: *Version 1:* Maintenance Training Group, Atsugi, Japan; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA; Fleet Training Center, Rota, Spain; Fleet Training Center, Mayport, FL; Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA. *Version 2:* Service School Command, San Diego, CA; Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, Mayport, FL; Fleet Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 6/94–Present. *Version 2:* 1/90–5/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to solder and desolder through board components and surface mounted components to printed circuit boards; repair single-sided, double-sided, and multilayer boards; and practice electrostatic discharge precautions. *Version 2:* Upon completion of the course, the student will be able to repair and replace components on rigid and flexible printed circuit boards.

Instruction: *Version 1:* Lectures, demonstrations, and laboratory experiences cover high reliability interconnection technology and include circuit board repair and component handling precautions. *Version 2:* Lectures, demonstrations, and practical experience cover the techniques of printed circuit board repair including component handling precautions.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in interconnection technology or basic electronic fabrication techniques (3/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic fabrication techniques (3/89).

NV-1715-1331

GENERAL PURPOSE ELECTRONIC TEST EQUIPMENT FUNCTIONAL AND OPERATIONAL USE

Course Number: J-100-0707.

Location: Fleet Training Center, Mayport, FL; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (68 hours).

Exhibit Dates: 1/90–11/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate test equipment (meters, signal generators, frequency counters, oscilloscopes, spectrum analyzers, and power meters) and perform routine maintenance on that equipment.

Instruction: Lectures and practical exercises cover electronic test equipment use and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic electronics laboratory (3/89).

NV-1715-1332

AN/SPS-67(V)1 RADAR SET MAINTENANCE

Course Number: A-104-0177.

Location: Advanced Electronics School, San Diego, CA; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 5 weeks (166-200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify, analyze, locate, and correct malfunctions occurring in a specific military radar set.

Instruction: Lectures and laboratory exercises cover the maintenance and repair of the radar set. Subject matter includes electronic circuitry, troubleshooting techniques, test equipment, and maintenance methods.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (4/89).

NV-1715-1333

AN/SPS-64(V)9 RADAR SET MAINTENANCE

Course Number: A-104-0195.

Location: Advanced Electronics School, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (66-80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a specific shipboard radar set.

Instruction: Lectures and practical exercises cover maintaining a shipboard radar set. Emphasis is on the ability to identify, analyze, locate, and correct malfunctions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (4/89).

NV-1715-1334

SURFACE ELECTRONIC WARFARE OPERATIONS INTERMEDIATE

Course Number: K-233-0022.

Location: Fleet Training Group WESTPAC, Japan; Fleet Training Group, Pearl Harbor, HI; Fleet Combat Training Center, San Diego, CA; Fleet Training Center, Mayport, FL; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (116 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe principles of electronic warfare, warfare systems, detection, classification, and targeting.

Instruction: Lectures and classroom exercises cover topics in electronic warfare.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/89).

NV-1715-1335

AN/SPS-40E AIR SEARCH RADAR SET MAINTENANCE

Course Number: A-104-0199.

Location: Fleet Training Center, Norfolk, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and maintain air search radar equipment using built-in and other laboratory test equipment under operational conditions with no supervision.

Instruction: Instructional methods include lectures and supporting laboratories in analyzing, locating, and correcting malfunctions in radar equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1336

AN/SPS-49(V)8 RADAR MAINTENANCE
(AN/SPS-49(V)5 ATD Operation and Maintenance)

Course Number: A-104-0209.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 16 weeks (640 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the radar system under all shipboard readiness conditions using built-in and other laboratory test equipment with no supervision.

Instruction: Lectures and supporting laboratories cover operational setup and the use of built-in test equipment to maintain and troubleshoot the radar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/94).

NV-1715-1337

1. AN/SPA-25G AND CV-3989/SG REPEATER MAINTENANCE
   (AN/SPA-25G Radar Indicator and CV-3989/SP Signal Converter Maintenance)
2. AN/SPA-25G RADAR INDICATOR GROUP MAINTENANCE

Course Number: *Version 1:* A-104-0205. *Version 2:* A-104-0205.

Location: *Version 1:* Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA. *Version 2:* Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 3 weeks (100-120 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 1/91–9/96. *Version 2:* 1/90–12/90.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain, troubleshoot, and repair a specific radar system and signal converter. *Version 2:* Upon completion of the course, the student will be able to maintain, troubleshoot, and repair a specific radar system and signal converter.

Instruction: *Version 1:* Lectures and practical exercises cover the the major functions of the equipment, operating procedures, adjustments, troubleshooting procedures, and removal and replacement procedures. *Version 2:* Lectures and practical exercises cover the major functions of the equipment, operating procedures, adjustments, troubleshooting procedures, and removal and replacement procedures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in radar system troubleshooting and maintenance (6/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1338

AN/USQ-74 DATA TERMINAL MAINTENANCE
(AN/USQ-74 Link Data Terminal Maintenance)

Course Number: A-101-0222.

Location: Advanced Electronics School, San Diego, CA; Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 4 weeks (152-156 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain data terminals using diagnostic tests and measurement equipment.

Instruction: Lectures and laboratory exercises cover the operation and maintenance procedures of keyboards, teletypes, tape readers, and associated equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (6/94).

NV-1715-1339

MK NC-2 MOD 2/2A PLOTTING SYSTEM MAINTENANCE

Course Number: J-623-0016.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair a shipboard navigation plotting system.

Instruction: Lectures and laboratories cover solid state devices, voltage networks, transistors, synchro/servo systems, dead reckoning analyzer-indicator, plotting table, and troubleshooting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1340

HIGH FREQUENCY SYSTEMS TECHNICIAN
(High Frequency Systems Technician Maintenance)

Course Number: *Version 1:* A-101-0258. *Version 2:* A-101-0258.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 11-12 weeks (366-430 hours). *Version 2:* 11 weeks (440 hours).

Exhibit Dates: *Version 1:* 10/91–Present. *Version 2:* 1/90–9/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to troubleshoot and maintain high frequency communications and SATCOM systems operating in the VHF and UHF range including ancillary equipment. *Version 2:* Upon completion of the course, the student will be able to troubleshoot and perform corrective and preventive maintenance on high frequency shipboard communication systems.

Instruction: *Version 1:* Lectures and laboratory exercises cover high frequency communications system configuration, operation, performance monitoring, troubleshooting, and maintenance. Course includes ancillary equipment, such as antenna systems, transmission lines, switchboards, signal converters, and function boxes, using test equipment up to 2.5GHz frequency. *Version 2:* Lectures and practical exercises teach student to isolate and repair equipment malfunctions as well as to perform preventive maintenance.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in HF communications system troubleshooting and maintenance and 2 in communications systems (6/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1341

AN/SRN-19(V)2 RADIO NAVIGATION SET MAINTENANCE

Course Number: A-102-0266.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a specific military radio navigation set.

Instruction: Lectures and practical exercises are specific to the radio navigation set with emphasis on isolation and correction of malfunctions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1342

TSEC/KY-65A/75A AN/USC-43 ADVANCED NARROWBAND DIGITAL VOICE TERMINAL LIMITED MAINTENANCE

Course Number: A-160-0087.

Location: Combat Systems Technical Schools Command, Mare Island, CA; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform limited maintenance on a specific cryptographic set.

Instruction: Lectures and practical exercises are focused on the maintenance of the cryptographic set.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/89).

NV-1715-1343

Officer in Tactical Command Information Exchange System (TADIX Maintenance)
(Officer in Tactical Command Information Exchange System)

Course Number: A-101-0221.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (80-96 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain cryptographic equipment and peripherals.

Instruction: Lectures and practical exercises cover the operation, troubleshooting, and repair of the electronic system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (11/95).

NV-1715-1344

AN/WSC-6(V)2 Maintenance

Course Number: A-101-0149.

Location: Fleet Training Center, Norfolk, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain specific satellite communications modems.

Instruction: Lectures and practical exercises cover theory of operation, preventive maintenance, and alignment procedures of specific satellite communications data links (modems).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1345

Miniature Electronics Repair

Course Number: *Version 1:* A-100-0072. *Version 2:* A-100-0072.

Location: *Version 1:* Afloat Training Center, Pearl Harbor, HI; Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, Mayport, FL; Maintenance Training Group, Rota, Spain; Maintenance Training Group, Atsugi, Japan; Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA. *Version 2:* Service School Command, San Diego, CA; Fleet Training Group, Pearl Harbor, HI; Fleet Training Center, Mayport, FL; Fleet Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 4 weeks (160 hours).

Exhibit Dates: *Version 1:* 8/94–Present. *Version 2:* 1/90–7/94.

Learning Outcomes: *Version 1:* This version is pending evaluation. Upon completion of the course, the student will be able to repair two-sided printed circuit boards to original specifications and maintain repair station equipment without supervision. *Version 2:* Upon completion of the course, the student will be able to repair two-sided printed circuit boards to original specifications and maintain repair station equipment without supervision.

Instruction: *Version 1:* This version is pending evaluation. Instructional methods include lectures and supporting laboratories in disassembling and replacing or repairing connectors and components. *Version 2:* Instructional methods include lectures and supporting laboratories in disassembling and replacing or repairing connectors and components.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic fabrication (3/89).

NV-1715-1346

OM-55/USC Super High Frequency Satellite Communication Modular Demodulator Group Maintenance

Course Number: A-101-0244.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair specific satellite communications modems.

Instruction: Lectures and practical exercises cover operation, fault isolation, repair, and preventive maintenance of specific communications system modems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1347

Ultra High Frequency-Demand Assigned Multiple Access (DAMA)

Course Number: A-101-0164.

Location: Fleet Training Center, San Diego, CA; Advanced Electronics School, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain a multiplexer set and related rack equipment under limited supervision.

Instruction: Instructional methods include lecture and supporting laboratories in analyzing, locating, and correcting faults using such test equipment as frequency counters, oscilloscopes, and digital voltmeters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/89).

NV-1715-1348

High Frequency Surface Communications System Operator

Course Number: A-260-0063.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 6 weeks (236 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain several specific radio and satellite communications systems.

Instruction: Lectures and practical exercises provide comprehensive system level training for operating and isolating faults on communications systems found on surface ships.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (6/94).

NV-1715-1349

Electromagnetic Compatibility Technician

Course Number: A-101-0250.

Location: Fleet Training Center, Norfolk, VA.

Length: 2-3 weeks (115-120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform electromagnetic interference surveys and correct interference.

Instruction: Instructional methods include lectures and supporting laboratories in detecting and correcting electromagnetic interference. Training in the use of spectrum analyzers, an antenna test set, a time domain reflectometer, a broadband radiation monitor, a thruline wattmeter, a megohmmeter, and an RF burn meter are emphasized.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications (11/95).

NV-1715-1350

AN/USQ-74 Link System Maintenance

Course Number: A-101-0264.

Location: Advanced Electronics School, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course the student will be able to operate and maintain a computer system at the user level under all operational conditions with no supervision.

Instruction: Instructional methods include lectures and supporting laboratories in basic digital theory, computer systems and organization, and system troubleshooting and maintenance. Major topics include number systems, Boolean algebra, logic gates, macro and micro instructions, I/O and memory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital principles, 3 in computer systems and organization, and 3 in computer systems troubleshooting and maintenance (3/89).

NV-1715-1351

AN/SPS-40B/C/D DMTI Radar Set Maintenance

Course Number: A-104-0183.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 9 weeks (286-344 hours).

Exhibit Dates: 1/90–12/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain specific radar equipment under shipboard operational conditions with no supervision.

Instruction: Instructional methods include lectures and supporting laboratories in analyzing, locating, and correcting various malfunctions in radar equipment using the associated test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/90).

NV-1715-1352

AN/TRQ-35(V) Tactical Frequency Management System

Course Number: A-101-0225.

Location: Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–9/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on a specific receiver subsystem.

Instruction: Lectures and practical experience cover preventive maintenance and isolation and correction of system malfunctions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (11/95).

NV-1715-1353

Trident Exterior Communications System (ECS) Level 2 Basic Maintenance

Course Number: A-101-0157.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 26 weeks.

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform corrective maintenance on the AN/BSC-2 except the OJ-326 SIDS console.

Instruction: This course is composed of A-150-0228 (NV-1715-1354), A-101-0170 (NV-1715-1355), A-101-0175 (NV-1715-1359), A-101-0172 (NV-1715-1357), A-101-0173 (NV-1715-1358), A-101-0171, (NV-1715-1356), A-101-0256.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (3/87).

NV-1715-1354

1. Trident Exterior Communications Subsystem Control Monitoring and Testing Subsystem Maintenance
2. Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance

Course Number: *Version 1:* A-150-0228C; A-150-0228. *Version 2:* A-150-0228.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 17 weeks (520 hours). *Version 2:* 6 weeks (260 hours).

Exhibit Dates: *Version 1:* 2/95–Present. *Version 2:* 1/90–1/95.

Learning Outcomes: *Version 1:* Upon successful completion of this course, the Trident radio operator will be able to define the abbreviations and terms associated with the exterior communications subsystems; state the operational characteristics of the subsystem; describe all major components of the subsystem and use all technical documentation required to support basic corrective maintenance of the control, monitor, and test the subsystem. *Version 2:* Upon completion of the course, the student will be able to define the abbreviations and terms associated with the control, monitor, and test (CMT) subsystem; state the operational characteristics of the subsystem; describe all major components of the subsystem; and use all technical documentation required to support basic corrective maintenance of the CMT subsystem.

Instruction: *Version 1:* Lectures and hands-on troubleshooting exercises uses specific equipment as trainers. Fault isolation and corrective maintenance are taught on the indicator processor (ID-2156), interface unit (J-3565), recorder-reproducer control (C-10447), and demodulation group (OM-56/BSC-1). *Version 2:* Lectures and hands-on laboratory exercises cover operation, fault isolation, and corrective maintenance of electronic equipment, including indicator processor, interface unit, power supplies, recorder-reproducer control, and demodulator group.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in communications techniques and 3 in electronic maintenance and troubleshooting (4/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronics laboratory (3/89).

NV-1715-1355

1. Trident Exterior Communications Subsystem Very Low Frequency/Low Frequency (VLF/LF) Subsystem Basic Maintenance
2. Trident Exterior Communications System (ECS) Level 2 VLF/LF Subsystem

Course Number: *Version 1:* A-101-0170; A-101-0170B. *Version 2:* A-101-0170.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 4 weeks (120 hours). *Version 2:* 5 weeks (208 hours).

Exhibit Dates: *Version 1:* 9/94–Present. *Version 2:* 1/90–8/94.

Learning Outcomes: *Version 1:* Upon successful completion of the course, the student will be able to perform all the operational tests on a VLF/LF subsystem, identify by symptom the probable cause of a malfunction and explain how a fault in a specific area can affect the entire VLF/LF subsystem. Based on a specific fault indication, the student will be able to list all probable circuits/modules that could cause the fault indication and explain what actions are required to bring the equipment back to normal operation. *Version 2:* Upon successful completion of the course, the trainee will be able to state the operational characteristics of the VLF/LF subsystem, define the abbreviations and terms used in system documentation, and describe the organization and content of all technical documentation used in the support of basic preventive/corrective maintenance at the component level.

Instruction: *Version 1:* Lectures and hands-on laboratory exercises cover diagnostic procedures, disassembly, repair, and reassembly of the VLF/LF communications system and subsystems, including demodulators, power supplies, radio receivers, and teletypes. Test equipment used includes digital multimeters, oscilloscopes, and frequency meters. *Version 2:* Lectures and hands-on laboratory exercises cover diagnostic procedures, disassembly, repair, and reassembly of the VLF/LF communications system and subsystems, including demodulators, power supplies, radio receivers, and teletypes. Test equipment used includes digital multimeters, oscilloscopes, and frequency meters.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in analog/ digital communication laboratory (4/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in digital communications laboratory (3/89).

NV-1715-1356

Trident Exterior Communications System (ECS) Data Switching Subsystem Basic Maintenance

Course Number: A-101-0171.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (152 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon successful completion of this course, the level I radioman will have the necessary skills to perform basic corrective maintenance on data switching devices.

Instruction: Lectures and hands-on laboratory exercises cover the fault isolation and repairs of the switch interconnect, a cryptographic set, a demodulator/converter, a power switchboard, and power supplies.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electromechanical systems laboratory (3/89).

NV-1715-1357

Trident Exterior Communications System (ECS) Support Subsystem Basic Maintenance

Course Number: S-101-0172.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 3 weeks (110 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon successful completion of this course, the Level I radioman will have the necessary skills to perform basic corrective maintenance on the Trident ECS support system including power and control units and high speed printers.

Instruction: Lectures and hands-on laboratory exercises cover the fault isolation and repair of teleprinters, power switchboard, and electronic air coolers.

Credit Recommendation: In the vocational certificate category, 2 semester hours in teletype repair (3/89).

NV-1715-1358

Trident Exterior Communications System (ECS) Antennas/Antenna Interface System

Course Number: A-101-0173.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon successful completion of the course, the level I radioman will have the necessary skills to perform basic corrective maintenance on antennas, antenna couplers, and antenna switches.

Instruction: Lecture and hands-on laboratory exercises cover the fault isolation and corrective maintenance of antennas/antenna interface systems, including antenna coupler, antenna control indicator, towed buoy antenna, and antenna interconnect box.

Credit Recommendation: In the vocational certificate category, 2 semester hours in antenna systems laboratory (3/89).

NV-1715-1359

1. Trident Exterior Communication System High Frequency/Ultra High Frequency (HF/UHF) Subsystem Basic Maintenance
2. Trident Exterior Communications System (ECS), Level 2 HF/VHF

Course Number: *Version 1:* A-101-0175C. *Version 2:* A-101-0175.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: *Version 1:* 5 weeks (160 hours). *Version 2:* 3 weeks (128 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 1/90–12/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to state the operational characteristics of the HF/UHF subsystem, define the abbreviations and terms used in system documentation, and describe the organization and content of all technical documentation used in the support of basic preventive/corrective maintenance at the component level. *Version 2:* Upon completion of the course, the trainee will be able to state the operational characteristics of the VHF/HF subsystem, define the abbreviations and terms used in system documentation, and describe the organization and content of all technical documentation used in the support of basic preventive/corrective maintenance at the component level.

Instruction: *Version 1:* Lectures and hands-on laboratory exercises cover diagnostic procedures, disassembly, repair, and reassembly of the HF/UHF communications system and subsystems, including radio transmitters/receivers, RF amplifiers, digital data encryption device, a voice switch, and power supplies. Test equipment used includes oscilloscopes, digital multimeters, frequency meters, and alignment tools. *Version 2:* Lectures and hands-on laboratory exercises cover diagnostic procedures, disassembly, repair, and reassembly of the VHF/HF communications system and subsystems, including radio transmitters/receivers, RF amplifiers, analog/digital converters, voice switch, and power supplies. Test equipment used includes oscilloscopes, digital multimeter, frequency meters, and alignment tools.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in analog communications laboratory (4/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in analog communications laboratory (3/89).

NV-1715-1360

Trident Exterior Communications Subsystem Advanced Maintenance, Level 3

Course Number: A-101-0169.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 9 weeks (357 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon successful completion of this course, the senior Trident radioman will have the necessary skills to perform advanced corrective maintenance on critical equipment used in the Trident exterior communications subsystems.

Instruction: Laboratory exercises and lectures cover the operation and maintenance of digital communications systems and the capability and functions of the central communications software program, including loading procedures, inserting authorized software patches, and reboot procedures in the event of a software error. The digital message interface unit and disk drive memory system is described. Approximately half of the course is devoted to maintenance procedures and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital computer operation and maintenance (3/89).

NV-1715-1361

Trident Exterior Communication System, Level 1

Course Number: A-101-0168.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 11 weeks (448 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon successful completion of this course, the trainee will be able to state the purpose, function, and location of Trident submarine exterior communications systems; perform, with supervision, preventive maintenance at the systems level; and describe the theory necessary to understand and support the normal operation of communications equipment found on Trident Submarines.

Instruction: Lectures and hands-on laboratory exercises cover the basic theory, operation, and preventive maintenance at the systems level on power distribution panels, teleprinters/typewriters, antenna systems, radio buoys, and HF/UHF and LF/ULF subsystems.

Credit Recommendation: In the vocational certificate category, 4 semester hours in communications systems laboratory (3/89).

NV-1715-1362

Trident (ECS) Electronics Command and Control System Technician Conversion

Course Number: A-102-0249.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 6 weeks.

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain electronic equipment unique to the Trident submarine.

Instruction: This is a composite course consisting of A-100-0077, A-102-0251 (NV-1715-1364), A-102-0252 (NV-1715-1363), and A-102-0261.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (4/87).

NV-1715-1363

1. AN/BPS-15B Radar Combined Maintenance
2. AN/BPS Radar Combined Maintenance

Course Number: *Version 1:* A-102-0252A; A-102-0252. *Version 2:* A-102-0252.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 3 weeks (119 hours).

Exhibit Dates: *Version 1:* 2/95–Present. *Version 2:* 1/90–1/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform preventive maintenance and authorized fault isolation and repair procedures on the Trident radar subsystem. *Version 2:* Upon completion of the course, the student will be able to perform preventive maintenance and authorized fault isolation and repair procedures on the Trident radar subsystem.

Instruction: *Version 1:* Lectures and hands-on laboratory exercises cover the operation and preventive maintenance of the radar systems. *Version 2:* Lectures and hands-on laboratory exercises cover the operation and preventive maintenance of the radar systems.

Credit Recommendation: *Version 1:* In the vocational certificate category, 2 semester hours in radar maintenance laboratory (4/96). *Version 2:* In the vocational certificate category, 2 semester hours in radar maintenance laboratory (3/89).

NV-1715-1364

AN/UPX-28 Identify Friend or Foe Combined Maintenance

(Trident Command and Control System (CCS) Electronics Technician Conversion)

Course Number: A-102-0251.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory necessary to support the normal operation and repair of Trident radar subsystems.

Instruction: Lectures and hands-on laboratory exercises cover the operation and preventive maintenance on a transponder test set and IFF equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in radar laboratory (3/96).

NV-1715-1366

Trident Navigation Subsystem Theory

Course Number: *Version 1:* A-193-0345. *Version 2:* A-193-0345.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 2-3 weeks (77 hours). *Version 2:* 2 weeks (77 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the theory to support corrective maintenance on the Trident navigation subsystem. *Version 2:* Upon completion of the course, the student will be able to describe the functions of the Trident navigation subsystem.

Instruction: *Version 1:* Lectures cover advanced training on the functional operation of Trident navigation subsystems. Each of the 17 components of the navigation subsystem and its interaction with the other components are covered. *Version 2:* Lectures cover the functional operation of Trident navigation subsystems. Each of the 17 components of the navigation subsystem is covered.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in microprocessor control laboratory (4/96). *Version 2:* Credit is not recommended because of the military-specific nature of the course (3/89).

NV-1715-1367

1. Navigation Control Console Mk 3 Mod 1/ 2 Maintenance
2. Navigation Control Console Mk 3 Mod 2 Maintenance

Course Number: *Version 1:* A-193-0342. *Version 2:* A-193-0342.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 2 weeks (68 hours). *Version 2:* 2 weeks (63 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/90–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the functional operation of the navigation control console (NCC); describe the control, test logic, and functional interface circuitry of the NCC; and perform all authorized fault isolation and repair procedures on the NCC. *Version 2:* Upon completion of the course, the student will be able to describe the functional operation of the navigation control console (NCC); describe the control, test logic, and functional interface circuitry of the NCC; and perform all authorized fault isolation and repair procedures on the NCC.

Instruction: *Version 1:* Lectures and laboratory exercises support corrective maintenance procedures on the Mk 3 Mod 2 navigation control console. Included are X-Y plotter, teleprinter, CNC controls, status displays, and power supplies. *Version 2:* Lectures and laboratory exercises cover corrective maintenance procedures on the Mk 3 Mod 2 navigational control console and include the X-Y plotter, teleprinter, CNC controls, status displays, and power supplies.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in basic digital systems (4/96). *Version 2:* In the vocational certificate category, 1 semester hour in applied electronics (control consoles) (3/89).

NV-1715-1368

Sonar Sounding Set AN/BQN-3J
Maintenance

Course Number: *Version 1:* A-193-0329A. *Version 2:* A-193-0329.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 4 weeks (97-140 hours). *Version 2:* 3 weeks (92 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/90–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe in detail the construction features of sonar sounding set subassemblies and their functional operation and perform authorized fault isolation and repair procedures on the equipment. *Version 2:* Upon completion of the course, the student will be able to describe in detail the construction features of sonar sounding set subassemblies and their functional operation and perform authorized fault isolation and repair procedures on the equipment.

Instruction: *Version 1:* Lectures and laboratory exercises cover corrective maintenance procedures on the AN/BQN-3J sonar sounding set and include the system training unit, control display unit, transmitter/receiver groups, sonar readout, computer interface, digital depth measuring system, automatic power level control, external display interface, and performance monitor/fault locater. *Version 2:* Lectures and laboratory exercises cover corrective maintenance procedures on the sonar sounding set and include the system training unit, control display unit, transmitter receiver groups, sonar readout, computer interface, digital depth measuring system, automatic power level control, external display interface, and performance monitor/ fault locater.

Credit Recommendation: *Version 1:* In the vocational certificate category, 2 semester hours in applied techniques in electronics (sonar systems) (4/96). *Version 2:* In the vocational certificate category, 1 semester hour in applied techniques in electronics (sonar systems) (3/ 89).

NV-1715-1369

1. Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2
2. Ship's Inertial Navigation System (SINS) Theory and Maintenance 2

Course Number: *Version 1:* A-193-0322A; A-193-0322. *Version 2:* A-193-0322.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: *Version 1:* 2 weeks (72 hours). *Version 2:* 2 weeks (72 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/90–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe the functional operation of a ship's inertial navigation system (SINS) temperature control, monitoring, alarm, and support circuits including loop functions; perform corrective maintenance using special tools, electronic test equipment, off-line diagnostics, maintenance checks, and adjustments on the SINS modules; and disassemble, repair, and reassemble the SINS. *Version 2:* Upon completion of the course, the student will be able to describe the functional operation of a ship's inertial navigation system (SINS) temperature control, monitoring, alarm, and support circuits including loop functions; perform corrective maintenance using special tools, electronic test equipment, off-line diagnostics, maintenance checks, and adjustments on the SINS modules; and disassemble, repair, and reassemble the SINS.

Instruction: *Version 1:* Lectures and laboratory exercises cover the advanced theory and maintenance of SINS, including temperature control, monitoring, alarm, and support circuits; data monitoring; transmission; and gyro monitor circuits. *Version 2:* Lectures and laboratory exercises cover the advanced theory and maintenance of SINS, including temperature control, monitoring, alarm, and support circuits; data monitoring; transmission; and gyro monitor circuits.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (4/96). *Version 2:* In the lower-division baccalaureate/ associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1370

Trident Electrostatically Supported Gyro
Monitor (ESGM) Navigation Aids
Technician Replacement

Course Number: A-193-0309.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 17 weeks (730 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, monitor, and test navigation equipment.

Instruction: This course is comprised of A-193-0398 (NV-1715-1371) and A-193-0399 (NV-1715-1372).

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (3/89).

NV-1715-1371

Trident Electrostatically Supported Gyro
Monitor (ESGM) NAVAIDS
Technician Replacements

Course Number: A-143-0398.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 13 weeks (566 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform all normal and casualty operations on the navigation subsystem, sonar sounding set, radio navigation set, Loran receiving set, ESGM, and navigation equipment. Student will also perform preventive maintenance and fault isolation/repair procedures on various pieces of electronic navigation equipment.

Instruction: Lectures and laboratory exercises cover the operation, testing, and maintenance of electronic navigation equipment, including central navigation computer, navigation control console, radio navigation set, Loran set, sonar sounding set, ESGM, and strategic weapons system ventilation and power distribution.

Credit Recommendation: In the vocational certificate category, 6 semester hours in electronic navigation systems maintenance (3/89).

NV-1715-1372

TRIDENT I NAVIGATION SUBSYSTEMS

Course Number: A-193-0399.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (116-164 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform all normal and casualty procedures or the Trident I navigation subsystem, perform all preventive maintenance procedures on subsystems; and perform documented fault isolation and repair procedures on subsystems.

Instruction: Lecture and laboratory exercises cover operation and maintenance of strategic weapons systems and navigation subsystems, including strategic weapon system ventilation; 400Hz, 600Hz, and DC power supplies; and navigation subsystem interface and calibration.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electromechanical systems technology (3/96).

NV-1715-1373

TRIDENT I CENTRAL NAVIGATION COMPUTER (CNC) EQUIPMENT REPLACEMENT

Course Number: A-193-0396.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 16-20 weeks (592-939 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the navigation subsystem, perform preventive maintenance procedures at the subsystem level, and perform documented fault isolation and repair procedures on the subsystem.

Instruction: Lectures and laboratory exercise cover the operation, testing, and maintenance of navigation computer systems, including navigation computer CP-890B/UYK, digital-to-digital and analog-to-digital converters, tape I/O, and the navigation control console.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer technology and 2 in digital systems maintenance laboratory (4/96).

NV-1715-1374

SHIPS INERTIAL NAVIGATION SYSTEM (SINS) MK 2 MODS 6 AND 7 CALIBRATION

(Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration)

Course Number: A-193-320A; A-193-0320.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 1 week (51-53 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform calibration procedures on the ship's inertial navigation system.

Instruction: Lectures and laboratory exercises cover the theory and detailed logic analysis of the ship's inertial navigation system, familiarization with the operation, special tools and support documentation, and repair procedures.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/96).

NV-1715-1375

ELECTROSTATICALLY SUPPORTED GYRO MONITOR (ESGM) CALIBRATION

Course Number: A-193-0331.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (63 hours).

Exhibit Dates: 1/90–7/91.

Learning Outcomes: Upon completion of the course, the student will be able to calibrate the electrostatically supported gyro monitor (ESGM).

Instruction: Lecture and laboratory exercises cover the calibration of ESGM system equipment.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/89).

NV-1715-1376

SHIPS INERTIAL NAVIGATION SYSTEM (SINS) MK 2 MODS 6 AND 7 THEORY AND MAINTENANCE I

(Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7)

Course Number: A-193-0321A; A-193-0321.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on a ship's inertial navigation system (SINS); use electronic test equipment and special tools required for maintenance, adjustments, and off-line diagnostic procedures; recognize and interpret indications of malfunctions for the SINS power distribution system and control loops; and observe personnel and equipment safety precautions while performing corrective maintenance.

Instruction: Lectures and laboratory exercises cover advanced theory and maintenance of ship's inertial navigation systems, including temperature control, monitoring, alarm, and support circuits; data monitoring; transmissions and gyro monitoring circuits; and on-line diagnostic monitoring circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (1/96).

NV-1715-1377

TRIDENT I FIRE CONTROL TECHNICIAN REPLACEMENT

Course Number: A-121-0412.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 23 weeks (532 hours).

Exhibit Dates: 1/90–8/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate the Mk 98 Mod 0 fire control system and associated equipment and perform preventive maintenance and fault isolation/repair procedures on the system and associated equipment.

Instruction: Lectures and laboratory exercises cover operational and maintenance procedures on fire control equipment, including computer network software, diagnostic disk file, magnetic tape file, keyboard and display, printer subsystem, master clock, data base equipment, power and switching subsystems, and optical alignment group.

Credit Recommendation: In the vocational certificate category, 4 semester hours in applied electronics (fire control systems) (3/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronics and 2 in computer technology (3/89).

NV-1715-1378

TRIDENT I MISSILE TECHNICIAN CONVERSION

Course Number: A-121-0440.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 23 weeks (562 hours).

Exhibit Dates: 1/90–8/92.

Learning Outcomes: Upon completion of the course, the student will be able to transfer skills as a missile technician to the Trident system, perform standard test procedures on Trident missile launching systems, perform routine preventive maintenance on missile launching systems, and troubleshoot and isolate faults on the system to the component level.

Instruction: Lectures/laboratory exercises cover the theory, operation, and troubleshooting of a missile launching system and includes the use of computer-aided diagnostics and troubleshooting flow charts; pneumatic, hydraulic, and electric power conversion subsystems and digital/computer components; and use of basic digital/computer theory and systems knowledge. Troubleshooting to the component level is also emphasized.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electromechanical systems (3/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital systems maintenance laboratory (3/89).

NV-1715-1379

TRIDENT I SHIP'S INERTIAL NAVIGATION SYSTEM (SINS) EQUIPMENT

Course Number: *Version 1:* A-193-0397. *Version 2:* A-193-0397.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: *Version 1:* 21 weeks (1054 hours). *Version 2:* 17 weeks (620 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to apply basic concepts of physics, electronics, and electromechanical devices; operate the ship's inertial navigation system (SINS) and related equipment; and perform preventive and corrective maintenance on the SINS and related equipment. *Version 2:* Upon completion of the course, the student will be able to apply basic concepts of physics, electronics, and electromechanical devices; operate the ship's inertial navigation system (SINS) and related equipment; and perform preventive and corrective maintenance on the SINS and related equipment.

Instruction: *Version 1:* Lectures and laboratory exercises cover the application of basic electronics, physics, and computer science to support the operation and maintenance of a ship's inertial navigation system (Mk2 Mod 7). Specific applications include servo loops, gyros, power supplies, printer interfacing, and computer operations. *Version 2:* Lectures and laboratory exercises cover applying basic electronics, physics, and computer science to support the operation and maintenance of a ship's inertial navigation system (Mk2 Mod 7). Specific applications include servo loops, gyros, power supplies, printer interfacing, and computer operations.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in applied electronics (inertial navigation systems maintenance) (4/96); in the lower-division baccalaureate/associate degree category, 3 semester hours in physical science and 3 in computer technology (4/96). *Version 2:* In the vocational certificate category, 2 semester hours in applied electronics (inertial navigation systems maintenance) (3/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in physical science and 2 semester hours in computer technology (3/89).

NV-1715-1380

Ship's Inertial Navigation System (SINS) Mk 2 Mod 7 Technician Replacement

Course Number: A-193-0307.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 21 weeks (784 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and test SINS and associated equipment.

Instruction: This is a pipeline course, composed of A-193-0397 (NV-1715-1379) and A-193-0399 (NV-1715-1372).

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (3/89).

NV-1715-1381

Trident Central Navigation Computer Technician Replacement

Course Number: A-193-0308.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 20 weeks (756 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational, maintenance, and testing functions required onboard the Trident class SSBN and understand normal/casualty/alternate operation of the CP-8908/UYK computer, D/D converter, A/D converter, a magnetic tape unit, and other associated equipment.

Instruction: This is a pipeline course, consisting of A-193-0396 and A-193-0399. See NV-1715-1373 and NV-1715-1372.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (4/87).

NV-1715-1382

Terrier Mk 152 Computer Complex

Course Number: A-150-0085.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 19-20 weeks (784 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand the operation of a digital computer and associated I/O equipment, including operating console, terminal, and data recorder; understand the instruction set of the computer and be able to write machine language programs which perform arithmetic, control, and I/O tasks; and maintain and troubleshoot the computer system using automated diagnostics and manual signal tracing routines.

Instruction: Lectures and practical experience cover the specific computer and auxiliary input/output equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization, 3 in electronic systems troubleshooting and maintenance, and 3 in computer systems troubleshooting and maintenance (6/89).

NV-1715-1383

Fleet Ballistic Missile Navigation Maintenance NAVAIDS

Course Number: A-193-0037.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (128 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, align, and maintain several submarine navigation aids and optical test equipment.

Instruction: Lectures and practical exercises cover maintenance of the specific equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in optical systems maintenance and 2 in electronic systems troubleshooting and maintenance (5/89).

NV-1715-1384

Tartar Weapons System Mk 74 Mod 6

Course Number: A-121-0183.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to supervise the operation, testing, and maintenance of a guided missile control and firing system, including radar, digital logic, and launching systems.

Instruction: Lectures and practical exercises cover the specific equipment used in the weapon system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1385

Fire Control System Technician Mk 88 Mod 1 Replacement

Course Number: A-121-0245.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 27-28 weeks (1136 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand the organization of a computer system and be able to troubleshoot and repair a missile fire control system, including the computer, tape drive, and printer.

Instruction: Lectures and practical exercises emphasize the maintenance of the fire control system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, and 2 in computer systems and organization (6/89).

NV-1715-1386

AN/SPG-55B Mod 9 Radar Difference

Course Number: A-104-0194.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–12/92.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair all parts of a specific radar system, including transmitter, receiver, and signal processing circuits.

Instruction: Lectures and practical exercises emphasize the maintenance of the radar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1387

Close-In Weapon System Mk 15 Block 0/1 Difference

Course Number: A-113-0095.

Location: Fleet Training Center, San Diego, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain a weapon system, including digital equipment; solid state devices; and RF transmission, receiving, and processing equipment.

Instruction: Lectures and practical exercises cover the maintenance of the weapon system.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1388

Close-In Weapon System Mk 15 Mod 11/14 Operation and Maintenance

Course Number: A-113-0114.

Location: Service School Command, Great Lakes, IL; Fleet Training Center, San Diego, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 29 weeks (1160 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain a weapon system, including digital equipment; solid state devices; and RF transmission, receiving, and processing equipment.

Instruction: Lectures and practical exercises cover the maintenance of the weapon system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1389

NATO Seasparrow Surface Missile System Officer

Course Number: A-2F-0055.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will supervise system maintenance and administration and tactically employ a missile system consisting of radar, signal processing, computer, and aiming components.

Instruction: Lectures and practical exercises cover the function and operation of the major subsystems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-1715-1390

3D Radar Search AN/SPS-39A

Course Number: A-104-0103.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 20-21 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a military radar system and adaptive video processor.

Instruction: Lectures and practical exercises cover the operation, maintenance, and alignment of radar system components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems and 2 in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1391

Tartar Weapons Direction System (WDS) Mk 4 WDE Mk 1

Course Number: A-121-0029.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 16 weeks (640 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a weapons direction system to the component level.

Instruction: Lectures and practical exercises cover troubleshooting and corrective maintenance of the weapons system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/88).

NV-1715-1392

Central Navigation Computer (CNC) Technician Replacement

Course Number: A-193-0392.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 12-13 weeks (512 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair a navigation computer and its peripherals.

Instruction: Lectures and practical exercises cover the computer system and include computer organization.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance and 3 in computer systems and organization (6/89).

NV-1715-1393

Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Equipment Technician Replacement

Course Number: A-193-0391.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain a submarine navigation system, including computer, repeaters, test equipment, and navigation equipment.

Instruction: Lectures and practical exercises cover troubleshooting the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1394

NATO Seasparrow 7M Maintenance

Course Number: *Version 1:* A-104-0204. *Version 2:* A-104-0204.

Location: *Version 1:* Service Schools Command, Mare Island, Vallejo, CA. *Version 2:* Combat Systems Technical Schools Command, Mare Island, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 30 weeks (1200 hours). *Version 2:* 30 weeks (1200 hours).

Exhibit Dates: *Version 1:* 3/93–Present. *Version 2:* 1/90–2/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and troubleshoot a radar-directed, computer-controlled missile system; understand the functions of the major system components, including radar, signal processing, digital computer, and servomechanism aiming; perform hardware and software preventive maintenance using automated and manual test methods and equipment; and troubleshoot and repair all systems to the module level. *Version 2:* Upon completion of the course, the student will be able to operate, maintain, and troubleshoot a radar-directed, computer-controlled missile system; understand the functions of the major system components, including radar, signal processing, digital computer, and servomechanism aiming; perform hardware and software preventive maintenance using automated and manual test methods and equipment; and troubleshoot and repair all systems to the module level.

Instruction: *Version 1:* Lectures and practical exercises prepare the student to operate, maintain, and troubleshoot complex electronic equipment. There is extensive troubleshooting experience. The course includes instruction in high frequency receiver/transmitters, bus configurations, digital-to-analog and analog-to-digital concepts, logic gates (TTL), multivibrators, pulse shaping circuits, signal timing, microprocessor configuration, interrupts, memory design, I/O control, programming, overall operation, synchros/servos, and various test equipment operation and maintenance. *Version 2:* Lectures and practical exercises prepare the student to operate, maintain, and troubleshoot complex electronic equipment. There is extensive troubleshooting experience.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 2 in computer systems and organization, 3 in radar systems, and 3 in applied control systems (3/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 2 in computer systems and organization, 3 in radar systems, and 3 in control systems (6/89).

NV-1715-1395

Strategic Weapon System Command Poseidon Weapons Officer

Course Number: A-2F-0031.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand the major systems which make up a missile fire control system including digital computers and data transmission.

Instruction: Lectures and practical exercises cover the operation of the major subsystems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-1715-1396

Terrier CG/DDG Standard Missile (ER) Officer Advanced

Course Number: A-2F-0061.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to supervise maintenance, administration, and employment of a missile fire control system, including radar, computer, and launching subsystems.

Instruction: Lectures and practical exercises cover the system's components.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-1715-1397

Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/ Navigation

Course Number: A-2E-0039.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the basic principles of inertial navigation and the mechanical and electronic systems which make up a ship's inertial navigation system.

Instruction: Lectures and homework cover the navigation system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-1715-1398

Trident 1 Backfit Strategic Weapon Systems Command Replacement

Course Number: A-2F-0050.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will understand and operate, at the command level, major subsystems of a missile fire control system including computers and data transmission.

Instruction: Lectures and practical exercises cover the function and operation of major system components.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-1715-1399

Fire Control System Mk 88 Mod 2 Advanced Technician

Course Number: A-121-0526.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 1-2 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform corrective maintenance on the cabling and interconnections of a missile weapons system.

Instruction: Lectures and practical exercises cover wire wrap techniques, soldering techniques, and missile weapons systems.

Credit Recommendation: In the vocational certificate category, 1 semester hour in soldering and wire wrap techniques (6/89).

NV-1715-1400

Strategic Weapons System Electronic, Class A

Course Number: A-121-0142.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 13-14 weeks (544 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use terms specific to electricity and electronics; use basic algebra and arithmetic, including power of ten notation, to analyze basic electric and electronic circuits for pertinent qualities; use multimeters, oscilloscopes, and signal generators to troubleshoot circuits; recognize circuit components by inspection; correctly assemble electronic and electric circuits using schematic diagrams; convert between number systems including decimal, octal, binary, hexadecimal, one's complement, and two's complement; analyze digital circuits including and/or gates and flip-flops; and analyze counters, encoders, decoders, multiplexers, adders, and registers. The student will have a basic understanding of the physics of linear and circular motion and the electromechanical devices for the sensing and control of such motion; understand the fundamental operation of synchros, resolvers, inductosyns, and servomechanism systems; and be able to troubleshoot and repair, to the major component level, electromechanical servomechanism systems.

Instruction: School includes lectures and laboratories and is divided into basic electricity and electronics (7 weeks), computer fundamentals (4 weeks), and special electronics and mechanical skills (2-3 weeks).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronics laboratory, 2 in DC circuits, 2 in AC circuits, 3 in digital principles, 3 in solid state electronics, 3 in computer systems and organization, and 3 in control systems (6/89).

NV-1715-1401

Electronic Special Circuits

Course Number: A-121-0529.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be familiar with electron tubes (vacuum tubes), basic electronic communications, and radar systems.

Instruction: Very little laboratory work is required. The students learn terminology and basic facts. Course prepares them for further study.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronic communications (6/89).

NV-1715-1402

Central Navigation Computer (CNC) Technician
(Computer Intermediate Level Maintenance)
(Fleet Ballistic Missile Tender Navigation Maintenance Computer)

Course Number: A-193-0038.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair components of electromechanical control systems, including servomechanisms and attendant gear trains, using electronic and mechanical test sets.

Instruction: Lectures and laboratory exercises involve the use of a servomechanism test set, attendant XY recorder, and electronic test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in servomechanism/ robotics equipment troubleshooting, maintenance, and repair (6/89).

NV-1715-1403

NATO Seasparrow 7M Difference Maintenance

Course Number: A-104-0203.

Location: Combat Systems Technical Schools Command, Mare Island, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 6-7 weeks (256 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair a guided missile fire control system, launch system, and associated computer.

Instruction: Lectures and practical exercises emphasize repair and maintenance of a surface missile system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1404

NAVAIDS Equipment Technician Replacement

Course Number: A-193-0393.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 16 weeks (640 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a sonar set, a radio navigation set, a frequency standard, a Loran receiving set, and a gyro monitor.

Instruction: Lectures and practical exercises cover maintenance of the specific submarine navigation system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1405

AN/SQR-15 Maintenance Training

Course Number: J-130-0101.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a towed-array sonar system and its associated subsystems.

Instruction: Lectures and practical exercises cover the sonar system with emphasis on corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1406

UNIVERSAL INTERMEDIATE LEVEL MAINTENANCE (ILM) TENDER

Course Number: A-121-0554.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 21 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and perform preventive and corrective maintenance on specific missile systems.

Instruction: Instruction includes classroom and laboratory work on the operation of electrical and electronic systems and their interface with other systems required to launch missiles. Course includes procedures for fault isolation and and correction on these systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in mechanical systems maintenance (6/89); in the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1407

VERTICAL LAUNCHER SYSTEM MK 41

Course Number: A-121-0522.

Location: Fleet Training Center, San Diego, CA; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 19-20 weeks (784 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain the computers, tape units, terminals, control systems, and mechanical systems that comprise a missile launch system.

Instruction: Lectures and practical exercises cover all parts of the missile launch system. Emphasis is placed on troubleshooting and corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance (6/89).

NV-1715-1408

MK 152 DIGITAL COMPUTER

Course Number: A-150-0079.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 19-20 weeks (784 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of a digital computer and associated I/O equipment, including operating console, terminal, and data recorder; use the instruction set of the computer to write machine language programs to perform arithmetic, control, and I/O tasks; and maintain and troubleshoot the computer system using automated diagnostics and manual signal tracing routines.

Instruction: Lectures and practical experience cover the specific computer and auxiliary input/output equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems and organization, 3 in electronic systems troubleshooting and maintenance, and 3 in computer systems troubleshooting and maintenance (6/89).

NV-1715-1409

AN/SQR-17A(V) DIFFERENCE MAINTENANCE

Course Number: K-130-0277.

Location: Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 5-6 weeks (230 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair a specific sonar system.

Instruction: Lectures and practical exercises cover the sonar system with emphasis on corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/89).

NV-1715-1410

MINIATURE ELECTRONICS REPAIR

Course Number: C-100-3182.

Location: Air Station, Beaufort, SC; Air Station, Oceana, Virginia Beach, VA; Air Station, Norfolk, VA; Air Station, Cecil Field, FL; Air Station, Lemoore, CA; Air Station, Miramar, San Diego, CA; Air Station, Moffett Field, CA; Air Station, El Toro, CA; Air Station, Whidbey Island, Oak Harbor, WA; Air Station, Atsugi, Japan; Air Station, Rota, Spain.

Length: 6 weeks (200 hours).

Exhibit Dates: 1/90–4/94.

Learning Outcomes: Upon completion of the course, the student will be able repair printed circuit boards, remove and replace laminate material, remove and replace conducting tracks, remove and replace conformal coatings, install lead wires on various types of terminal and connectors, and use repair equipment including those operations which require microscopic viewing.

Instruction: Lecture and lab experience cover printed circuit board construction, component types and mounting methods, electronic sounder and fluxer, removal and replacement of discrete components and multilead through-hole devices, removal and replacement of surface mount devices, laminated board and trace repair, and lead preparation and connection techniques.

Credit Recommendation: In the vocational certificate category, 2 semester hours in miniature repair techniques (11/92).

NV-1715-1411

AN/AAS-33A DETECTING AND RANGING SET RECEIVER GROUP/RECIPROCATING COMPRESSOR/INFRARED INDICATOR INTERMEDIATE MAINTENANCE COURSE

Course Number: C-102-3980.

Location: Air Station, Whidbey Island, Oak Harbor, WA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under supervision, intermediate maintenance on an infrared/laser detecting and ranging set, using the AN/AAM-60 electro-optical systems test set.

Instruction: Lectures and laboratory assignments cover operation, maintenance, troubleshooting, and repair of the electro-optical test set with digital logic, phase locked loops, CRT display electronics and signal processing, servo system electronics, and an HP 218B 16 bit microcomputer; the detecting and ranging receiver with IR detectors, optics, cooling, vacuum, and signal processing; four gimbaled gyro-stabilized platform with synchros, resolvers, and phase-locked loops; and laser generation, transmitting, receiving, and signal processing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electro-optical systems maintenance (8/89).

NV-1715-1412

OQ-35A/ASM-347(V) PROGRAMMER COMPARATOR INTERMEDIATE MAINTENANCE

Course Number: *Version 1:* C-198-3011. *Version 2:* C-198-3011.

Location: *Version 1:* Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA. *Version 2:* Air Station, Oceana, Virginia Beach, VA; Air Station, Whidbey Island, Oak Harbor, WA.

Length: *Version 1:* 8 weeks (320 hours). *Version 2:* 11 weeks (320 hours).

Exhibit Dates: *Version 1:* 1/94–4/97. *Version 2:* 1/90–12/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to program, troubleshoot, and repair a programmable signal processor. *Version 2:* Upon completion of the course, the student will be able to list the input power requirements for the programmer comparator (PC), demonstrate written knowledge of the functional operation of the analog-to-digital converter including solving theoretical troubleshooting problems, state the function and modes of operation of the calibration interface adapter, trace signal from one point in the PC to another, use applicable publications to isolate and correct faults in the PC, and develop programs in machine code to sequence the PC through a sampling cycle.

Instruction: *Version 1:* Lectures and practical exercises focus on the specific equipment. Course includes detailed study of programming techniques that cause the equipment to perform a sequence of operations. Course also includes extensive practice in troubleshooting the equipment. *Version 2:* Lecture and laboratory exercises on the programmer-comparator.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in programmable controllers and 3 in electronic system troubleshooting and maintenance (10/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in programmable controllers (8/89).

NV-1715-1413

C-8610/AWE Armament Control Panel Intermediate Maintenance

Course Number: C-646-3767.

Location: Air Station, Oceana, Virginia Beach, VA; Air Station, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–5/96.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and repair the armament control panel and operate the associated maintenance adapter set.

Instruction: Lectures and lab experience cover the armament control panel and associated controls and indicators and the SRA maintenance adapter SRT.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (8/89).

NV-1715-1414

Electro-Optics/Cryogenics Fundamentals

Course Number: C-102-3981.

Location: Air Station, Moffett Field, CA; Air Station, Whidbey Island, Oak Harbor, WA; Air Station, Oceana, Virginia Beach, VA.

Length: 2 weeks (59 hours).

Exhibit Dates: 1/90–11/91.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, under supervision, an electro-optical and cryogenic systems. The student will demonstrate a written knowledge of the properties of electromagnetic waves and beam dynamics, relationships of the different frequencies of light and color, principles of wave optics, principles of light polarization, principles and definitions of lens optics, fundamentals of the particle theory of light, basic atomic structure and energy levels, principles of photon absorption and emission, basic characteristics of laser operation, and introduction to cryogenics.

Instruction: Lectures and practical exercises cover the theory, operation, maintenance, and troubleshooting of electro-optical and cryogenic systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in applied physics (8/89).

NV-1715-1415

GT-3 OK-441/ALM Controller Intermediate Maintenance

Course Number: C-102-4743.

Location: Air Station, Whidbey Island, Oak Harbor, WA.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: Upon completion of the course, the student will be able to describe the four main sections of the HP 1000 computer and their functions; enter machine language programs via the computer front panel; load and unload the disk cartridge; test, troubleshoot, align, adjust, and maintain the dual disk drive unit; operate, test, and maintain a display terminal; and demonstrate knowledge of the operating system, including its purpose, subdivisions, utilities program system prompts, command structure, and security codes.

Instruction: Lectures and laboratory exercises cover computer operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer operations (8/89).

NV-1715-1416

OJ-511/ALM Exciter Test Station Intermediate Maintenance

Course Number: *Version 1:* C-102-4745A. *Version 2:* C-102-4745.

Location: *Version 1:* Air Station, Whidbey Island, WA. *Version 2:* Air Station, Whidbey Island, Oak Harbor, WA.

Length: *Version 1:* 5 weeks (154 hours). *Version 2:* 5 weeks (160 hours).

Exhibit Dates: *Version 1:* 2/97–Present. *Version 2:* 1/90–1/97.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to maintain, analyze, and troubleshoot, under close supervision, a test station which uses the IEE-488 bus to interface various test equipment, such as digital multimeters, spectrum analyzers, timers, and oscilloscopes.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and laboratory activities cover functional operation, circuit operation, testing using computer diagnostics, and troubleshooting and repair of the exciter test station.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in maintenance and repair of computer-controller test equipment (8/89).

NV-1715-1417

AN/USM-467 Radar Communication Test Station Operator Intermediate Maintenance

Course Number: C-198-3046.

Location: Air Station, Whidbey Island, Oak Harbor, WA; Air Station, Oceana, Virginia Beach, VA.

Length: 4 weeks (148 hours).

Exhibit Dates: 1/90–1/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform minor hardware and software maintenance on a radar communications test station.

Instruction: Classroom lectures and laboratory application cover operation and programming of a radar communications test station. Subjects covered and tasks mastered include operation of system; knowledge of real-time, executive operating system, self-test programs, and operator usage; and knowledge of and programming facility with the ATLAS (Abbreviated Languages for All Systems) language as applied to a real-time control system.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (8/89).

NV-1715-1418

AN/USM-467 Radar Communications Test Station Maintainer Intermediate Maintenance

Course Number: C-198-3047.

Location: Air Station, Oceana, Virginia Beach, VA; Air Station, Whidbey Island, Oak Harbor, WA.

Length: 9 weeks (315 hours).

Exhibit Dates: 1/90–1/92.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair a radar communications test station, using self-test diagnostic and conventional test equipment, down to the component level.

Instruction: Classroom lectures and laboratory exercise cover the theory of operation and circuitry of various devices, such as power supplies, digital computers, disc controllers, dual disk drives, programmable multifunction meters, digital word generators, color graphics units, bus test units, programmable oscilloscopes, multiple matrix switches, synchro/resolvers, auto function generators, auto spectrum analyzers, RF Interface units, signal analyzers, HP-436A power meters, and rubidium oscillator. Also covered are the use of the IEE-488 bus to control and interface the above devices and the use of system programming languages.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer interfacing (8/89).

NV-1715-1419

AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance

Course Number: C-104-3771.

Location: Air Station, Oceana, Virginia Beach, VA; Air Station, Whidbey Island, Oak Harbor, WA.

Length: 19 weeks (560 hours).

Exhibit Dates: 1/90–3/96.

Learning Outcomes: Upon completion of the course, the student will demonstrate understanding of the search radar test console and the search radar systems, including system analysis and troubleshooting techniques. The student will be able to perform intermediate level maintenance under close supervision.

Instruction: Lectures and laboratories cover the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in analog and power supply circuit analysis and 1 in troubleshooting techniques (8/89).

NV-1715-1420

IP-722F/AVA-1 Analog Display Indicator Intermediate Maintenance

Course Number: C-198-3762.

Location: Air Station, Whidbey Island, Oak Harbor, WA.

Length: 6 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform supervised maintenance on a video display subsystem, including power supplies, signal generating, processing and shaping circuits, video amplifiers, and analog-to-digital converters.

Instruction: Lectures cover basic operation and circuits and practical laboratory troubleshooting covers test setup and procedures. Topics include low-voltage and high-voltage power supplies; video circuits and indicator lamps; generation of field scans, buffering, and drive signals; video amplifier; analog-to-digital conversion circuits; timers; symbol generation for flight path; alphanumerics and other externally input display symbols; and a video mixer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in video interfacing (8/89).

NV-1715-1421

OJ-615/ALM Countermeasures Test Console Intermediate Maintenance

Course Number: C-198-3763.

Location: Air Station, Whidbey Island, Oak Harbor, WA.

Length: 5 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot and repair a countermeasures test console under close supervision.

Instruction: Lectures and Laboratory application are related to transmitter test station theory, power supplies, line filters, test equipment, IEEE-488 bus analysis, and matrix switch.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (8/89).

NV-1715-1422

AN/ALR-50 Support Equipment Intermediate Maintenance

Course Number: *Version 1:* C-102-3097. *Version 2:* C-102-3097.

Location: *Version 1:* Air Maintenance Training Group, Oceana, Virginia Beach, VA; Air Maintenance Training Detachment, Whidbey Island, Oak Harbor, WA. *Version 2:* Air Station, Whidbey Island, Oak Harbor, WA.

Length: *Version 1:* 2-4 weeks (80 hours). *Version 2:* 4 weeks (112 hours).

Exhibit Dates: *Version 1:* 2/93–Present. *Version 2:* 1/90–1/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to analyze the test set system by tracing signal flow through a system block diagram and state the basic function of each subsystem (plug-in module). The student will isolate instructor-induced troubles down to the component level in subsystems that include tone generator, formal generator, code generator, sequence generator, control board, interface analyzer board, and timer and analog interface board. The student will also be able to calibrate and align test set. *Version 2:* Upon completion of the course, the student will be able to analyze the test set system by tracing signal flow through a system block diagram and will state the basic function of each subsystem (plug-in module). The student will isolate instructor-induced troubles down to the component level in the tone generator, formal generator, code generator, sequence generator, control board, interface analyzer board, and timer and analog interface board. The student will also be able to calibrate and align test set.

Instruction: *Version 1:* Classroom lectures and laboratory application cover the operation and maintenance of the test set system. *Version 2:* Classroom lectures and laboratory application cover the operation and maintenance of the test set system.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (8/89).

NV-1715-1424

Advanced First Term Avionics, Class A1

Course Number: C-100-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 11 weeks (437 hours).

Exhibit Dates: 1/90–12/92.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, test, and maintain, under minimum supervision, navigation, communications, and radar systems.

Instruction: Lectures and practical exercises cover AC and DC circuits; resonance; time constants; decibels; ideal transistors; transistor theory, including biasing, load line analysis, equivalent circuits, RC transformers, direct couplers, feedback, video, and power amplifiers; power supplies, regulators, waveshaping circuits, and oscillators; fundamentals of computer logic and systems with emphasis on maintenance of equipment; microwave principles, including characteristics of transmission lines, waveguides, cavities, antennas, microwave tubes, and circuits; fundamentals of AM, FM, and SSB; and block diagrams and operation of radar and navigation equipment with emphasis on maintenance and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in AC circuits, 3 in active devices and circuits, and 3 in communications electronics (7/91).

NV-1715-1425

AN/FPN-63(V) Maintenance, Class C1

Course Number: C-103-2037.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot the precision approach radar system and turntable system.

Instruction: Lectures and practical exercises cover electronic systems, process of timing devices, transmitters, receivers, indicators, turntables, power circuits, radar alignment, and systems troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems and 3 in computer systems troubleshooting and maintenance (9/89).

NV-1715-1426

AN/GPN-27 Maintenance, Class C1

Course Number: C-103-2036.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance on an airport surveillance radar system.

Instruction: Lectures and practical exercises cover radar systems and their controls, power supplies, transmitters, receivers, AC power distribution, system alarm/fault logic synchronizers, and preventive maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in radar systems and 4 in electronic communications (9/89).

NV-1715-1427

AN/SPN-35A Maintenance
(AN/SPN-35A Maintenance, Class A1)
(AN/SPN-35A Maintenance, Class G1)

Course Number: C-103-2012.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 7-8 weeks (312 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and perform preventive and corrective maintenance on a radar system.

Instruction: Lectures and practical exercises cover electronic block diagrams, power distribution, power supplies, antenna control and drive circuits, azimuth and elevation controls, antenna alignment, radio frequency monitors, IF and video amplifiers, receivers and transmitters, sweep circuits, trigger delay generators, control computations and target generators, and special emphasis on system troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (11/95).

NV-1715-1428

1. AN/SPN-41 Maintenance
2. AN/SPN-41 Maintenance, Class C1

Course Number: *Version 1:* C-103-2023. *Version 2:* C-103-2023.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Technical Training Center, Millington, TN. *Version 2:* Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 5 weeks (153 hours). *Version 2:* 4-5 weeks (176 hours).

Exhibit Dates: *Version 1:* 2/95–Present. *Version 2:* 1/90–1/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance and align and operate the radar system. This course is designed to teach personnel who are competent in electricity/electronics of the AN/SPN-43B radar system. *Version 2:* Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair radar systems.

Instruction: *Version 1:* This course is taught using formal classroom presentation coupled with laboratory periods. Extensive hands-on experience in the laboratory is an integral part of the course with about an eight to one laboratory to lecture ratio. Most of the instruction provided is equipment specific. *Version 2:* Lectures and practical exercises cover power distribution, elevation drives, azimuth drives, antenna alignment, synchro/servo fundamentals, transmitter stabilization, digital logic, and radar system troubleshooting.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electric safety and 3 in radar systems (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in radar system (9/89).

NV-1715-1429

AN/SPN-42A Maintenance, Class C1

Course Number: C-103-2013.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 22 weeks (880 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course the student will be able to operate and maintain an all weather carrier landing system including its computers and subsystems.

Instruction: Lectures and practical exercises in radar systems, controls, operation, DC power distribution, radar subsystems, data stabilization subsystems, control and monitoring equipment, input and output buffers, data link monitors. Includes systems analysis and ability to isolate and repair faults. Includes console alignment, encoder alignment, radar alignment, computer maintenance procedure, machine language programming, computer subsystem power supplies, control logic circuiting, program translation, computer diagnostic tests, and fault diagnosis using diagnostic programs.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer operation, 8 in computer systems and organization, and 4 in radar systems (9/89).

NV-1715-1430

AN/SPN-43A Maintenance, Class C1

Course Number: C-103-2014.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 4-5 weeks (176 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair a radar system.

Instruction: Lectures and practical exercises cover block diagrams, power supplies, power distribution, high-voltage circuits, oscillators, amplifiers, frequency control, stabilization relay circuits, and azimuth drive and elevation tilt circuits. Emphasis is placed on practical exercises and troubleshooting laboratories.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems (9/89).

NV-1715-1431

AN/SPN-44 Maintenance, Class C1

Course Number: C-103-2024.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 3 weeks (104 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair a radar system.

Instruction: Lectures and practical exercises cover power distribution, low- and high-voltage power supplies, receivers and transmitters, Doppler processors, servo systems, recorders, and indicators. Emphasis is placed on radar systems and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in radar systems (9/89).

NV-1715-1432

AN/TPX-42A Basic Direct Altitude Identity Readout (DAIR) Maintenance, Class C1

Course Number: C-103-2034.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 7 weeks (272-280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair the direct altitude identity readout system.

Instruction: Lectures and practical exercises cover the operation and basic maintenance of the radar system. Topics include semiconductor devices, logic devices, powers supplies, coders, receivers, transmitters, analog-to-digital converters, processor operation, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 1 in radar systems (8/92).

NV-1715-1433

AN/TPX-42A(V)5 Direct Altitude Identity Readout (DAIR) Maintenance, Class C1

Course Number: C-103-2028.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 5-6 weeks (208 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair the direct altitude identity readout system.

Instruction: Lectures and practical exercises cover the operation and maintenance of the radar system. Topics include semiconductors, power supplies, digital sweep generators, data processor memory circuits, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (5/96).

NV-1715-1434

AN/TPX-42A(V)8 Carrier Air Traffic Control Center (CATCC) Direct Altitude Identity Readout (DAIR) Maintenance, Class C1

Course Number: C-103-2033.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair a radar system.

Instruction: Lectures and practical exercises cover control and maintenance panels, maintenance procedures, electrostatic devices, block diagrams, fault isolation, circuit analysis, and keyboard familiarization. Special emphasis is placed on troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (9/89).

NV-1715-1435

AN/TPX-42A(V)10 Radar Air Traffic Control Facility (RATCF) Direct Altitude Identity Readout (DAIR) Maintenance, Class G1

Course Number: C-103-2035.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 7-9 weeks (296-360 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair a radar system.

Instruction: Lectures and practical exercises cover introduction to computers, programming, console operations, power supplies, circuit analysis, and direct memory access. Emphasis is placed on troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (4/98).

NV-1715-1436

Aviation Antisubmarine Warfare (ASW) Operator, Class A1

(Antisubmarine Warfare (ASW) Operator, Class A1)

Course Number: C-210-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 10-11 weeks (436 hours).

Exhibit Dates: 1/90–8/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform the duties of an antisubmarine warfare operator.

Instruction: Lectures and practical exercises cover radar systems, including plotting codes and tactics, sonar and sonar operations, and fundamentals of oceanography.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in oceanography and 1 in radar systems (9/89).

NV-1715-1437

Aviation Ordnance, Class A1

Course Number: C-646-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 10-11 weeks (415 hours).

Exhibit Dates: 1/90–1/96.

Learning Outcomes: Upon completion of the course, the student will have the basics skills to become an apprentice aviation ordnanceman.

Instruction: Lectures and laboratories cover mathematics; hardware; use of general and special tools; safety, electricity, including series, parallel, and series/parallel circuits; measuring devices; troubleshooting; corrosion control; ammunition and magazines; ordnance; aircraft guns; and guided missiles and their function, operation, and safety precautions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in DC circuits (9/89).

NV-1715-1438

Avionics Intermediate, Class C7

Course Number: C-100-2012.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 30-31 weeks (1225 hours).
Exhibit Dates: 1/90–5/91.
Learning Outcomes: Upon completion of the course, the student will be able to maintain and repair electronic, avionic, digital, radar, and communications systems.
Instruction: Lectures and laboratories cover mathematics, physics, electronic devices and systems, digital computer systems, communications and microwave principles, waveform devices, radar principles, systems analysis, avionics principles, servomechanisms, and test equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in technical mathematics, 6 in semiconductor devices, 4 in AC circuits, 4 in digital computers, 3 in digital fundamentals, 3 in communications electronics, 4 in radar systems, 2 in avionic systems, and 1 in physics (9/89).

NV-1715-1439

Avionics Technician, Class A1

Course Number: C-100-2013.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 26-27 weeks (1040 hours).
Exhibit Dates: 1/90–5/96.
Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot solid state devices, radar systems, and electrical and electronic systems with little supervision.
Instruction: Lectures and laboratories cover mathematics and computer, electrical, electronic, communications, and radar systems. Included are the fundamentals of amplitude and frequency modulation, receiver circuits, use of test equipment, and troubleshooting to the component level. Topics include RF/IF and radio amplifiers, mixers, oscillators, detectors, modulators, and power supplies. Course also includes introduction to digital logic, principles, and circuits, as well as the organization, programming, and troubleshooting of basic digital computers. Other topics include AC and DC fundamentals, semiconductor devices, and electronic system troubleshooting and repair.
Credit Recommendation: In the vocational certificate category, 3 semester hours in shop mathematics (2/93); in the lower-division baccalaureate/associate degree category, 6 semester hours in communications electronics, 4 in computer organization, 4 in microprocessors, 4 in computer systems troubleshooting and maintenance, and 3 in radar systems (2/93).

NV-1715-1440

Avionics Technician, Class A1

Course Number: C-100-2014.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 8-9 weeks (344 hours).
Exhibit Dates: 1/90–Present.
Learning Outcomes: Upon completion of the course, the student will be able to use test equipment to perform circuit analysis.
Instruction: This course is made up of the first eight weeks and three days of the AVA school (NV-1715-1439). Lectures and practical exercises cover the fundamentals of DC and AC circuits including analog and digital meter principles and use; principles of transformers, bridge circuits, and circuit analysis; and technical mathematics.
Credit Recommendation: In the vocational certificate category, 3 semester hours in shop mathematics (9/89); in the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits and 1 in AC circuits (9/89).

NV-1715-1441

Marine Air Traffic Control Communications Technician, Class C1

Course Number: C-103-2032.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 30-31 weeks (1216 hours).
Exhibit Dates: 1/90–9/95.
Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, and repair communications systems and data processing equipment.
Instruction: Lectures and laboratories cover analog electronic components and circuits, including semiconductors, diodes, transistors, power supply filters and rectifiers, amplifiers, oscillators, multivibrators, mixers, modulators, antennas, and gain and frequency control. Course also covers theory of digital components and circuits, including logic gates, integrated circuits, flip-flops, I/O devices, memory devices, and microprocessors. Emphasis is placed on fault isolation and repair of equipment.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in electronic devices and circuits, 4 in digital devices and circuits, 2 in computer principles, and 2 in electronic systems troubleshooting and maintenance (9/89).

NV-1715-1442

Marine Air Traffic Control Navigational Aids Technician, Class C1

Course Number: C-103-2030.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 33-34 weeks (1336 hours).
Exhibit Dates: 1/90–9/95.
Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, install, and repair navigation equipment and data processing equipment.
Instruction: Lectures and laboratories cover analog electronic components, including semiconductors, diodes, transistors, power supply filters and rectifiers, oscillators, multivibrators, mixers, modulators, antennas, and gain and frequency control. Course also covers digital theory, including logic gates, integrated circuits, flip-flops, I/O devices, memory devices, and microprocessors. Emphasis is placed on troubleshooting navigation aids systems.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in electronic devices and circuits, 4 in digital devices and circuits, 2 in computer principles, and 2 in electronic systems troubleshooting and maintenance (9/89).

NV-1715-1443

Marine Air Traffic Control Radar Technician, Class C1

Course Number: C-103-2031.
Location: Air Technical Training Center, Memphis, Millington, TN.
Length: 35-36 weeks (1432 hours).
Exhibit Dates: 1/90–9/95.
Learning Outcomes: Upon completion of the course, the student will be able to operate, test, troubleshoot, install, and repair radar equipment and data processing equipment.
Instruction: Lectures and laboratories cover analog electronic components, including semiconductors, diodes, transistors, power supply filters and rectifiers, oscillators, multivibrators, mixers, modulators, antennas, and gain and frequency control. Course also covers digital theory, including logic gates, integrated circuits, flip-flops, I/O devices, memory devices, and microprocessors. Emphasis is placed on troubleshooting radar systems.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in electronic devices and circuits, 4 in digital devices and circuits, 2 in computer principles, and 6 in electronic systems troubleshooting and maintenance (9/89).

NV-1715-1444

Basic Electronics Rate Training

Course Number: A-100-0089.
Location: Submarine School, New London, Groton, CT.
Length: 14 weeks (560 hours).
Exhibit Dates: 1/90–2/94.
Learning Outcomes: Upon completion of the course, the student will be able to make mathematical calculations and solve problems using basic algebraic and trigonometric methods; calculate voltages and currents in DC series and parallel circuits; calculate AC circuit variables in RL, RC, and RLC circuits; analyze the operation of solid state devices, including diodes, bipolar transistors, and solid state circuits, including power supplies, amplifiers, operational amplifiers, oscillators, and waveshapers; describe the operation of digital gates, flip-flops, counters, registers, adders, and A/D converters; and perform arithmetic in binary, octal, and hexadecimal numbering systems.
Instruction: Lectures and practical exercises cover topics in basic technical mathematics and electronics.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 2 in DC circuits, 3 in AC circuits, 3 in digital principles, and 6 in solid state electronics (10/89).

NV-1715-1445

AN/BRQ-1 AN/WYQ-1 Combined Maintenance

Course Number: A-102-0128.
Location: Submarine School, New London, Groton, CT.
Length: 8 weeks (328 hours).
Exhibit Dates: 1/90–12/93.
Learning Outcomes: Upon completion of the course, the student will be able to operate,

troubleshoot, repair and maintain HF receivers with emphasis on types of signal generation, frequencies, and inputs/outputs.

Instruction: Theory and laboratory exercises cover the operation and maintenance of receivers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1446

Cryptologic Maintenance Technician AN/WLQ-4(V) Subsystem Maintenance Pipeline

Course Number: A-233-0052.

Location: Submarine School, New London, Groton, CT.

Length: 27 weeks (1080 hours).

Exhibit Dates: 1/90–3/94.

Learning Outcomes: Upon completion of this pipeline, the student will be able to perform subsurface cryptologic maintenance.

Instruction: This pipeline course consists of A-150-0267, AN/UYK-20(V) Basic Maintenance; A-233-0049 AN/WLQ-4(V) (E-Suite) Combined Maintenance; A-102-0128, AN/BRQ-1 AN/WYQ-1 Combined Maintenance; and A-233-0050, AN/WLQ-4(V) N-Suite Combined Maintenance. See exhibits NV-1402-0145, NV-1715-1448, NV-1715-1445, and NV-1715-1447 for further information.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1447

AN/WLQ-4(V) N-Suite Combined Maintenance

Course Number: A-233-0050.

Location: Submarine School, New London, Groton, CT.

Length: 7 weeks (270 hours).

Exhibit Dates: 1/90–3/94.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a wideband recorder, a frequency converter, an FM multiplexer, and a signal distribution unit.

Instruction: Lectures and laboratories emphasize equipment maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1448

AN/WLQ-4(V) E-Suite Combined Maintenance

Course Number: A-233-0049.

Location: Submarine School, New London, Groton, CT.

Length: 10 weeks (440 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a navigation system that includes antennas and signal processing equipment.

Instruction: Lectures and practical exercises cover the maintenance of a naval navigation system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1449

Application of Static Control Devices

Course Number: A-662-0139.

Location: Guided Missiles School Detachment, Dam Neck, Virginia Beach, VA; Submarine Training Center, Pearl Harbor, HI; Submarine Training Facility, San Diego, CA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able describe a wide variety of applications of solid state components, basic measurement and control circuits, and logic circuits. Student will analyze solid state circuit function, determine circuit outputs, and troubleshoot devices.

Instruction: Lectures, demonstrations, and laboratory exercises cover applied solid state circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in DC machinery and 1 in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1450

Mk 19/27 Advanced Theory and Maintenance

Course Number: A-670-0051.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe basic feedback theory including synchros and solid state electronic control systems, as applied to multidimensional orientation measurement systems. Student will be able to analyze circuit diagrams for function and troubleshoot and repair functions on the control systems, power supplies, and measurement systems.

Instruction: Lectures, demonstrations, and laboratory exercises cover the above areas using a sophisticated gyrocompass.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours lecture and 1 semester hour laboratory in electromechanical systems (10/89).

NV-1715-1451

Combined Integrated Submarine Communications Antenna Subsystem Maintenance

Course Number: A-101-0137.

Location: Submarine School, New London, Groton, CT.

Length: 5-6 weeks (161 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will operate and maintain basic submarine loop and whip antennas.

Instruction: Lectures and practical exercises cover the antennas and antenna systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/89).

NV-1715-1452

Analog-to-Digital Converter Mk 65 Mods 1 and 2 Maintenance

Course Number: *Version 1:* A-193-0253. *Version 2:* A-193-0253.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: *Version 1:* 2 weeks (54 hours). *Version 2:* 1-2 weeks (57 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will have knowledge and skills needed to perform the procedures required to service the analog-to-digital converter. *Version 2:* Upon completion of the course, the student will be able to describe functional components of a specialized analog-to-digital converter and be familiar with maintenance procedures.

Instruction: *Version 1:* Lectures and laboratory sessions cover the functional operation and circuit characteristics of the synchro, resolver, DC circuits, and power supplies of the analog-to-digital converter and tools and test equipment needed to maintain the system. *Version 2:* Lectures and laboratories cover the specific converter.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in digital electronics (4/96). *Version 2:* Credit is not recommended because of the military-specific nature of the course (10/89).

NV-1715-1454

1. Magnetic Tape Input/Output Device MX-7988A and B/UYK Maintenance
2. Magnetic Tape Input/Output Device MX-7988A,B UYK Maintenance

Course Number: *Version 1:* A-193-0341. *Version 2:* A-193-0341.

Location: *Version 1:* Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: *Version 1:* 2-3 weeks (64-67 hours). *Version 2:* 2 weeks (76 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a magnetic tape unit. *Version 2:* Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a magnetic tape unit.

Instruction: *Version 1:* Lectures and laboratory exercises cover the maintenance and repair of magnetic tape units, including a magnetic tape transport, read/write switching amplifiers, power supplies, combination logic functions, command code execution, and use of special tools and test equipment. *Version 2:* Lectures and laboratory exercises cover the maintenance and repair of magnetic tape units, including a magnetic tape transport, read/write switching amplifiers, power supplies, combination logic functions, command code execution, and use of special tools and test equipment.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree

category, 2 semester hours in computer systems troubleshooting and maintenance (4/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (10/89).

NV-1715-1455

Radio Navigation Set AN/BRN-3B Maintenance

Course Number: A-193-0261.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (79 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe and operate an HF radio receiver, including knowledge of preamplifiers, limiters, RF amplifiers, IF amplifiers, and audio amplifiers; perform diagnostic checks using computer programs; and align, adjust, and maintain the RF receiver.

Instruction: Lectures and laboratory exercises cover the subject matter.

Credit Recommendation: In the vocational certificate category, 2 semester hours in repair and maintenance of RF receivers (10/89).

NV-1715-1456

Guidance System Mk 3 Mod 0 Theory and Maintenance

Course Number: A-121-0296.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (75 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a missile guidance system.

Instruction: Lectures and practical exercises cover the circuitry and components of the missile guidance system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1457

Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem Theory

Course Number: A-193-0346.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory which supports the corrective maintenance of the navigation system.

Instruction: Lectures and practical exercises cover the function and operation of the navigation system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/89).

NV-1715-1458

Electrostatically Supported Gyro Monitor (ESGM) Calibration

Course Number: A-193-0431.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory of the equipment and calibrate the gyro monitor.

Instruction: Lectures and laboratory exercises cover the specific equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/89).

NV-1715-1459

AN/BPS-14 Radar Combined Maintenance

Course Number: A-104-0165.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a naval radar system.

Instruction: Lectures and practical exercises focus on the maintenance of a specific radar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1460

Static Inverter 5Kw Combined Maintenance (5Kw Static Inverter Combined Maintenance)

Course Number: A-662-0030.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (64-68 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe solid state electronic circuits as applied to DC and AC power conversion systems at the functional level. Student will be able to analyze circuit function from diagrams and repair, troubleshoot, and maintain the power conversion and monitoring systems.

Instruction: Lectures, demonstrations, and practical exercises cover solid state electronic power conversion.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in solid state electronics (3/93).

NV-1715-1461

Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Combined Maintenance

Course Number: A-193-0357.

Location: Submarine School, New London, Groton, CT.

Length: 16-17 weeks (646 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain an inertial navigation system.

Instruction: Lectures and practical exercises cover the theory of computer organization, timing circuits, register logic, and test equipment for computer maintenance and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer systems and organization and 3 in computer systems troubleshooting and maintenance (10/89).

NV-1715-1462

Inertial Navigation System (ESGM) AN/WSN-3A(V)2 Combined Maintenance

Course Number: A-193-0354.

Location: Submarine School, New London, Groton, CT.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair an inertial navigation system.

Instruction: Lectures and practical exercises cover the navigation system including a microprocessor-based special purpose computer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1463

AN/WLQ-4(V) Direct Support Element Basic Operator

Course Number: A-233-0051.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 4 weeks (154 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be operate the communications subsystem under supervision.

Instruction: Theory and laboratory exercises cover the function and operation of the subsystem including speakers, loud speakers, interface box, audio recorders, and magnetic tape drives.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/89).

NV-1715-1464

Magnetic Disk File (MDF) Theory and Electrical Maintenance

Course Number: A-121-0304.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a magnetic disk drive used for computer data storage.

Instruction: Lectures and laboratory exercises cover the circuitry and components of a computer disk drive.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1465

Subsurface Direct Support Maintenance

Course Number: A-233-0074.

Location: Submarine School, New London, Groton, CT.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair basic receivers and transmitters.

Instruction: Lectures and laboratories cover audio detection, IF, RF, amplifiers, and oscillator stages. Course also includes bandwidth switching, prescaling, frequency conversion, video amplification, power supplies, and alignment of complex electronic assemblies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1466

Sonar Receiving Set AN/BQR-23 Basic Maintenance

Course Number: A-130-0156.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate remote controlled CRT displays and understand the use of the CPU, I/O address register, and data control.

Instruction: Lectures and practical exercises cover signal processing, beam tracing, and video amplifiers.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/89).

NV-1715-1467

AN/BQR-15 SPALT 9080 Operations and Maintenance

Course Number: A-130-0332.

Location: Submarine School, New London, Groton, CT.

Length: 1-2 weeks (52 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair a sonar receiving set.

Instruction: Experienced technicians are introduced to the theory, operation, and maintenance of a particular sonar receiving set. Instruction is also provided on electrical, mechanical, and hydraulic maintenance of the set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1468

Static Control Device Theory

Course Number: A-662-0138.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Guided Missile School Detachment, Norfolk, VA; Submarine Training Facility, Charleston, SC; Submarine Training Facility, San Diego, CA; Submarine School, New London, Groton, CT.

Length: 1-2 weeks (75 hours).

Exhibit Dates: 1/90–8/93.

Learning Outcomes: Upon completion of the course, the student will understand the theory of solid state components, basic circuits, and logic circuits; make algebraic computations associated with solid state components and circuits such as gain and impedance of transistors and including FETs; and determine outcomes for logic circuits.

Instruction: Lectures, demonstrations and laboratory exercises cover solid state electronics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in solid state electronics (10/89).

NV-1715-1469

AN/BSC-2 Data Link Communications System (DLCS) Equipment Combined Maintenance

Course Number: A-101-0230.

Location: Submarine School, New London, Groton, CT.

Length: 5 weeks (134-200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, repair, and maintain a data link communications system.

Instruction: Lectures and practical exercises emphasize maintenance of the data link communications system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (8/95).

NV-1715-1470

AN/WRR-7 Combined Maintenance

Course Number: A-101-0068.

Location: Submarine School, New London, Groton, CT; Submarine Training Facility, Charleston, SC.

Length: 6 weeks (214 hours).

Exhibit Dates: 1/90–2/92.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a digital data processor, a radio receiver, a power supply, a frequency standard, and a cryptologic device.

Instruction: Lectures and practical exercises emphasize the maintenance of the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1471

Submarine Satellite Information Exchange Subsystem Combined Maintenance

Course Number: A-101-0083.

Location: Submarine School, New London, Groton, CT.

Length: 8 weeks (375 hours).

Exhibit Dates: 1/90–6/94.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair a submarine satellite information exchange system.

Instruction: Lectures and practical exercises cover the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1472

AN/WIC Integrated Announcing System

Course Number: A-623-0051.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair shipboard internal communications equipment and describe the theory of operation at the system and subsystem level.

Instruction: Lectures, tests, practical exercises, demonstrations, individualized practice, and solution of practical problems are methodologies. Topics include fault isolation, component-level repair, and electrical safety.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1473

Underwater Fire Control, Class A

Course Number: A-113-0133.

Location: Submarine School, New London, Groton, CT.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and maintain electromechanical control systems, including step motors, servo systems, and synchros; describe the organization of general purpose computers; and troubleshoot and repair an electronic fire control system and a submarine warfare system.

Instruction: Lectures and practical exercises cover topics in electromechanical systems, computer theory, and specific military systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical control systems, 3 in electronic systems troubleshooting and maintenance, and 3 in computer systems and organization (10/89).

NV-1715-1474

Submarine Communications Equipment Combined Maintenance

Course Number: A-101-0061.

Location: Submarine School, New London, Groton, CT.

Length: 17 weeks (688 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will operate and maintain submarine radio receivers, antennas, MF/HF transmitters, and special communications equipment.

Instruction: This pipeline course consists of A-101-0237, Special Communications Equipment Combined Maintenance (NV-1715-1475); A-101-0135, Receivers Combined Maintenance (NV-1715-0984); and A-101-0137, Combined Integrated Communications Antenna Subsystem Maintenance (NV-1715-1451). The remaining course component is classified and was not evaluated. Please see the exhibits listed above for further information.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1475

Special Communications Equipment Combined Maintenance

Course Number: A-101-0237.

Location: Trident Training Facility, Kings Bay, GA; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 8 weeks (304 hours).

Exhibit Dates: 1/90–6/94.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a radio transmitter system.

Instruction: Lectures and practical exercises cover the maintenance of the transmitters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1476

AN/BRN-6/SRN-9A Combined Maintenance

Course Number: A-102-0168.

Location: Submarine School, New London, Groton, CT.

Length: 2 weeks (74 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair a navigation satellite receiver.

Instruction: This course covers both theory and laboratory on the physical, functional, and interface description of the troubleshooting and repair of a radio receiver. The course also covers the use of special tools and test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/89).

NV-1715-1477

Submarine Tactical Communications Equipment Combined Maintenance

Course Number: A-101-0133.

Location: Submarine School, New London, Groton, CT.

Length: 13 weeks (506 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory of operation and be able to perform routine preventive and corrective maintenance on submarine tactical communications equipment.

Instruction: This is a pipeline course consisting of A-101-0083, Submarine Satellite Information Exchange System For Shipboard Installations Combined Maintenance and A-101-0251, Submarine Digital Teletype Combined Maintenance. For further information, see NV-1715-1471 and NV-1404-0011.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1478

Navigation Technician 594/688 Class Pipeline

Course Number: A-193-0103.

Location: Submarine School, New London, Groton, CT.

Length: 14 weeks (547 hours).

Exhibit Dates: 1/90–4/94.

Learning Outcomes: Upon completion of the pipeline, the student will be able to operate, maintain, and repair navigation systems, including radar, receivers, and identify friend or foe systems.

Instruction: This is a pipeline course consisting of A-102-0253, DMINS AN/WSN-1(V)2 Combined Maintenance; A-102-0199, AN/BPS-15 Radar Combined Maintenance; A-102-0168, BRN-6/SRN-9A Combined Maintenance; and A-102-0229 and A-102-0131. The last two courses were too short for evaluation. See NV-1715-0994, NV-1715-0491, and NV-1715-1476.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1479

Navigation Technician 637/688 Class Pipeline

Course Number: A-193-0363.

Location: Submarine School, New London, Groton, CT.

Length: 14 weeks (550 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the pipeline, the student will be able to operate, maintain, and repair navigation systems, including radar, receivers, and identify friend or foe systems.

Instruction: This is a pipeline course consisting of A-193-0354, Inertial Navigation System (ESGM) AN/WSN-3A(V)2 Combined Maintenance; A-102-0199, AN/BPS-15 Radar Combined Maintenance; A-102-0168, BRN-6/SRN-9A Combined Maintenance; and A-102-0229 and A-102-0131. The last two courses were too short for evaluation. See NV-1715-1462, NV-1715-0491, and NV-1715-1476.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1480

Subsurface Cryptologic Technician (CT) Augmentee Operator Pipeline

Course Number: A-233-0079.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate subsurface cryptographic equipment.

Instruction: This is a pipeline course consisting of A-233-0051 (NV-1715-1463), AN/WLQ-4(V) Direct Support Element (DSE) Basic Operator and A-233-0073 and A-233-0086, both of which were too short for evaluation. Please see exhibit for NV-1715-1463 for further information.

Credit Recommendation: Please refer to the exhibit noted above for credit recommendation (10/89).

NV-1715-1481

Subsurface Cryptologic Technician (CT) Augmentee Operator Pipeline

Course Number: A-233-0081.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate subsurface cryptographic equipment.

Instruction: This is a pipeline course consisting of A-233-0051, AN/WLQ-4(V) Direct Support Element (DSE) Basic Operator (NV-1715-1463) and A-233-0027, AN/WLR-8(V)2 Basic Operation (NV-1714-0989). See these exhibits for further information.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1482

Subsurface Cryptologic Technician (CT) Augmentee Operator Pipeline

Course Number: A-233-0080.

Location: Submarine School, New London, Groton, CT.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate subsurface cryptographic equipment.

Instruction: This is a pipeline course consisting of A-233-0051, AN/WLQ-4(V) Direct Support Element (DSE) Basic Operator (NV-1715-1463); A-233-0029, AN/WRQ-1, AN/WYQ-1 Operator (NV-1715-0445); and A-233-0073 and A-233-0086, both of which were too short for evaluation. Please see exhibits for A-233-0051 and A-233-0029 for further information.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1483

Electronic Support Measures (ESM) 637 Class Type 2 Combined Maintenance Pipeline

Course Number: A-233-0055.

Location: Submarine School, New London, Groton, CT.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair electronic support systems.

Instruction: This pipeline course consists of A-150-0267, AN/UYK-20(V) Basic Maintenance (NV-1402-0145); A-233-0049, AN/WLQ-4(V) (E-Suite) Combined Maintenance (NV-1715-1448); and A-102-0157, Periscope Type 18 Combined Maintenance (NV-1715-1221). See individual exhibits for further information.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1484

Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88

Course Number: A-121-0305.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 1-2 weeks (48 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and repair computer magnetic disk drives and operate and repair electro/hydraulic/mechanical systems serving the computer disk drive units.

Instruction: Lectures and laboratories cover the disk drives.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in mechanical systems (disk drives) (10/89).

NV-1715-1485

AN/BQH-5(V)4 Combined Maintenance

Course Number: A-130-0290.

Location: Submarine Training Center, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 4 weeks (154 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot recorder/reproducer tape transport equipment.

Instruction: Lectures and laboratory instruction cover the above topic.

Credit Recommendation: In the vocational certificate category, 1 semester hour in audio tape recorder repair (10/89).

NV-1715-1486

Intermediate Maintenance Activity (IMA) Machinery Maintenance

Course Number: A-210-0014.

Location: Submarine School, New London, Groton, CT.

Length: 1-2 weeks (54-80 hours).

Exhibit Dates: 1/90–4/94.

Learning Outcomes: Upon completion of the course, the student will be able to describe the basic concepts of acoustics, rotating machinery vibration, noise generation, structure-borne and fluid-born transmission, machinery balancing and noise measurement, and reduction procedures. Student will operate vibration monitoring equipment and understand the maintenance implications of the measurements.

Instruction: Lectures, demonstrations, and laboratory exercises cover acoustics, vibrations, and measurement.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester lecture and 1 semester hour laboratory in acoustics or vibrations (10/89).

NV-1715-1487

Navigation Technician Type 2 637 Class Pipeline

Course Number: A-193-0372.

Location: Submarine School, New London, Groton, CT.

Length: 23 weeks (910 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of this pipeline, the student will be able to operate and perform preventive and corrective maintenance on a number of navigation system components, including radar, NAVSAT, and identify friend or foe (IFF) systems.

Instruction: This course consists of A-193-0357, Mk 3 Mod 6 Ship's Inertial Navigation System Combined Maintenance (NV-1715-1461); A-102-0199, AN/BPS-15 Radar Combined Maintenance (NV-1715-0491); A-102-0168, BRN-6/SRN-9A Combined Maintenance (NV-1715-1476); and A-102-0229. The last was too short for evaluation. Please refer to the individual exhibits.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1715-1488

1. Torpedoman's Mate Basic
2. Torpedoman's Mate, Class A1

Course Number: *Version 1:* A-123-0127. *Version 2:* A-123-0127.

Location: *Version 1:* Service School Command, Great Lakes, IL. *Version 2:* Service School Command, Orlando, FL.

Length: *Version 1:* 8 weeks (320 hours). *Version 2:* 10 weeks (400 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to calculate the resistance, current, power, and voltage in series, parallel, and complex DC circuits, and perform basic maintenance duties aboard ships and shore installations as a torpedoman. *Version 2:* Upon completion of the course, the student will be able to solve problems using basic math and linear equations and analyze circuits to calculate resistance, current, and voltage in series, parallel, and complex DC circuits, and capacitance and inductance in basic AC circuits.

Instruction: *Version 1:* This course includes group-paced lectures and performance activities on series DC circuits, parallel DC circuits, complex DC circuits, laboratory exercises on basic DC measurement techniques, hydraulics, pneumatics and explosives, and maintenance and troubleshooting torpedo systems. *Version 2:* Topics include principles of basic mathematics and algebra, solving linear equations, series and parallel DC circuits, complex DC circuits, capacitance, inductance, reactance, and transformers. Laboratory exercises cover basic techniques of measurement for AC and DC circuits, explosives, underwater sound, hydraulics and pneumatics, nucleonics, and planned maintenance and safety related to torpedoes and torpedo systems.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits (10/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits and 1 in technical mathematics (2/90).

NV-1715-1489

Electronics Technician, Class A

Course Number: A-100-0084.

Location: Service School Command, Orlando, FL.

Length: 17 weeks (680 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: Upon completion of the course, the student will be able to solve for voltage, current, power, and resister values in DC series, parallel, and series-parallel circuits; use common laboratory instruments and perform laboratory work; calculate transient voltages and currents in RC and RL circuits; calculate voltages, currents, and impedances in sinusoidal RLC circuits; analyze transformer circuits; analyze filters; analyze vacuum tube circuits; analyze circuits containing diodes, transistors, and circuit protection devices; analyze Class A, B, AB, and C power amplifiers; analyze rectifier circuits and regulated power supplies; describe the operation of solid state nonlinear semiconductor devices; analyze multivibrators, limiters, clampers, oscillators, integrators, differentiators; analyze and troubleshoot AM transmitter and receiver circuits; describe antenna characteristics and radio wave propagation; and troubleshoot and repair electric and electronic circuits to the component level.

Instruction: Lectures and laboratory exercises cover topics in basic electricity and electronics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in DC circuits, 3 in AC circuits, 7 in solid state electronics, 3 in electronic systems troubleshooting and maintenance, and 2 in electronic communications (2/90).

NV-1715-1490

Tomahawk Missile Intermediate Maintenance

Course Number: A-121-0487.

Location: Service School Command, Orlando, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance, documented fault isolation, and repair procedures on a cruise missile under supervision.

Instruction: Lectures and practical exercises cover the maintenance of the missile. Course does not go into detailed circuit analysis or mechanical component breakdown.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/90).

NV-1715-1491

Torpedo Mk 48 Intermediate Maintenance Activity Supervisor

Course Number: A-123-0181.

Location: Service School Command, Orlando, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–11/91.

Learning Outcomes: Upon completion of the course, the student will be able to manage the maintenance activities of a torpedo weapons system.

Instruction: Lectures and practical exercises cover the maintenance of a torpedo system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/90).

NV-1715-1492

Torpedo Technician Advanced

Course Number: A-123-0147.

Location: Service School Command, Orlando, FL.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–1/93.

Learning Outcomes: Upon completion of the course, the student will be able to analyze operation of basic DC series, parallel, series-parallel, bridge and DC networks, including Thevenin's theorem, AC theory, algebra, inductance, and capacitance; solve for current, voltage, and time relationships in DC RL circuits, transformers, filters, RCL circuits; solder and wire wrap; operate basic test equipment, transistor amplifiers, oscillators, switching circuits, synchros, and resolvers; use digital numbering systems, Boolean algebra; and describe logic circuits, flip-flops, counters, shift registers, and A/D and D/A converters and multiplexers.

Instruction: Topics include lectures in DC and AC circuits, including series, parallel circuits, Thevenin's theorem, capacitance, inductance, RL and RCL circuits, AC transformers, resonance. Lectures and practical exercises cover digital electronics, including numbering systems, Boolean algebra, and logic circuits. Laboratory exercises cover soldering and wire wrap techniques, electrostatic discharge, and failure analysis.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electronic shop practice (2/90); in the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 3 in AC circuits, 4 in solid state electronics, and 3 in digital principles (2/90).

NV-1715-1493

Torpedo Mk 48 Advanced Capability
(ADCAP) Intermediate Maintenance

Course Number: A-123-0183.

Location: Service School Command, Orlando, FL.

Length: 15 weeks (600 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and repair the Mk 48 torpedo and its test sets.

Instruction: Lectures and practical exercises cover the maintenance of the torpedo and its associated systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/90).

NV-1715-1494

General Purpose Electronic Test Equipment
Repair Intermediate Maintenance

Course Number: C-198-3041.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Norfolk, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze transistor amplifier circuits, operational amplifier circuits, and power supplies; convert between binary, octal, hexadecimal, and BCD number systems; construct truth tables for logic circuits; describe counters, decoders, and multiplexers; and troubleshoot and repair signal generators, voltmeters, oscilloscopes, and frequency counters.

Instruction: Lectures and practical exercises emphasize troubleshooting common electronic laboratory instruments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital principles, 1 in solid state electronics, and 3 in electronic systems troubleshooting and maintenance (3/90).

NV-1715-1495

1. Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems, Phases B/D
2. Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems Phases B/D

Course Number: *Version 1:* C-198-3034. *Version 2:* C-198-3034.

Location: *Version 1:* Technical Training Unit, Keesler AFB, MS. *Version 2:* Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Norfolk, VA.

Length: *Version 1:* 3 weeks (120 hours). *Version 2:* 3 weeks (120 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to calibrate various physical/mechanical measuring devices, such as pressure and vacuum devices, torque and tension measuring devices, temperature measuring devices, and dimensional measuring devices. *Version 2:* Upon completion of the course, the student will be able to calibrate various physical/mechanical measuring devices, such as pressure and vacuum devices, torque and tension measuring devices, temperature measuring devices, and dimensional measuring devices.

Instruction: *Version 1:* Lectures and practical exercises cover physical/dimensional calibration techniques. Basic analytical/mathematical theory and equations are used to emphasize what each instrument is measuring. *Version 2:* Lectures and practical exercises cover physical/dimensional calibration techniques. Analytical/mathematical techniques are not stressed.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in mechanical measuring instrument calibration (4/97). *Version 2:* In the vocational certificate category, 3 semester hours in mechanical measuring instrument calibration (3/90).

NV-1715-1496

Intermediate Level Test Equipment
Calibration

Course Number: C-198-3033.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Norfolk, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to calibrate oscilloscopes, meters, counters, and signal generators and adjust or replace components to ensure operational standards.

Instruction: Classroom lectures cover theory and laboratory exercises on equipment calibration. Extensive laboratory time is devoted to signal generators and power measurements.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in the calibration of electronic test equipment (3/90).

NV-1715-1497

AN/SQR-17(V) Series Operator

Course Number: K-130-0274.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–4/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate a particular sonar set.

Instruction: Lectures and practical exercises cover the operation of the sonar set.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1498

AN/SQR-18A(V)1 Operator

Course Number: K-130-0216.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–8/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate a sonar receiving set.

Instruction: Lectures and laboratory exercises cover the specific sonar equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1499

Surveillance Towed Array Sensor System
(SURTASS) Shore

Course Number: J-130-0288.

Location: Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to recognize, analyze, locate, and correct malfunctions by using diagnostic routines and associated test equipment.

Instruction: Lectures and practical exercises cover disk controllers, disk packs, CRT monitors, trackballs, display controllers, keyboards, magnetic tape controllers, magnetic tape transports, and the synchronous channel multiplexer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (3/90).

NV-1715-1500

Advanced Digital Theory

Course Number: J-130-0299.
Location: Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: 3 weeks (120 hours).
Exhibit Dates: 1/90–Present.
Learning Outcomes: Upon completion of the course, the student will be able to analyze digital circuits containing gates, flip-flops, registers, counters, adders and subtractors; convert between binary, decimal, octal, hexadecimal, and BCD number systems; program a specific microprocessor using machine language; describe the principles and the uses of flags, stocks, interrupts, and interfaces; and troubleshoot a microprocessor-based computer to the component level.
Instruction: Lectures and laboratory exercises cover the above topics. Laboratories emphasize troubleshooting microprocessor-based computer.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital principles and 3 in microprocessors (3/90).

NV-1715-1501

AN/SQQ-23 PAIR Operations Basic

Course Number: K-130-0097.
Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: 5 weeks (200 hours).
Exhibit Dates: 1/90–9/93.
Learning Outcomes: Upon completion of the course, the student will be able to operate a specific sonar system and a specific receiving system using existing or provided environmental and tactical data to detect, classify, and track submarine and nonsubmarine contacts.
Instruction: Lectures and practical exercises cover the operation of a specific sonar system.
Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1502

Passive Equipment Cabinet (PEC) Operation and Maintenance

Course Number: J-130-0263.
Location: Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: 3 weeks (120 hours).
Exhibit Dates: 1/90–Present.
Learning Outcomes: Upon completion of the course, the student will be able to analyze printed circuit boards and chassis-mounted components; troubleshoot; isolate faults; and maintain boards and components to the module replacement level.
Instruction: Classroom instruction and major laboratory exercises cover fault isolation and troubleshooting techniques. Topics include AC/DC power distribution, test diagrams, audio circuits, and switch matrix circuits.
Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/90).

NV-1715-1503

FF-1052 Sonar Supervisor

Course Number: K-130-1119.
Location: Fleet Antisubmarine Training Center, San Diego, CA; Fleet Antisubmarine Training Center, Norfolk, VA.
Length: 4 weeks (160 hours).
Exhibit Dates: 1/90–6/92.
Learning Outcomes: Upon completion of the course, the student will be able to supervise the operation of a sonar team in antisubmarine warfare.
Instruction: Lectures and practical exercises cover topics in antisubmarine warfare, including sonar systems, search plan development, detection and classification, tracking, attack, and sonobuoy operation.
Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1504

AN/SQQ-89(V)1/3 Sonar Watch Supervisor

Course Number: K-130-1102.
Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: 4 weeks (160 hours).
Exhibit Dates: 1/90–Present.
Learning Outcomes: After 9/92 see NV-1715-1851. Upon completion of the course, the student will be able to supervise a sonar team in antisubmarine warfare operations; recommend a sonar search plan; obtain and evaluate data; and supervise search methodology.
Instruction: Lectures and practical exercises cover search methodology using equipment in the sonar suite.
Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1505

Advanced Acoustic Analysis, Class C

Course Number: *Version 1:* K-210-0529. *Version 2:* J-210-0529.
Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: *Version 1:* 13 weeks (510 hours). *Version 2:* 5 weeks (200 hours).
Exhibit Dates: *Version 1:* 5/97–Present. *Version 2:* 1/90–4/97.
Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform advanced acoustic analysis of sonar contacts in accordance with recently published intelligence data. *Version 2:* Upon completion of the course, the student will be able to perform advanced acoustic analysis of sonar contacts in accordance with recently published intelligence data.
Instruction: *Version 1:* Lectures and practical exercises cover Soviet sonar technology, underwater communications systems, and signature analysis of Soviet submarines. *Version 2:* Lectures and practical exercises cover Soviet sonar technology, underwater communications systems, and signature analysis of Soviet submarines.
Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (10/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1506

AN/SQQ-89(V)2 Sonar Watch Supervisor

Course Number: *Version 1:* K-130-1103. *Version 2:* K-130-1103.
Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: *Version 1:* 4 weeks (146 hours). *Version 2:* 4 weeks (160 hours).
Exhibit Dates: *Version 1:* 5/94–4/98. *Version 2:* 1/90–4/94.
Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to effectively execute the responsibilities of sonar watch supervisor and improve the tactical employment of the shipboard sonar suite. *Version 2:* Upon completion of the course, the student will supervise the operation of a specific antisubmarine warfare sonar system.
Instruction: *Version 1:* Lectures and practical application exercises include search plan development, sonar operations, sonobuoy operations, and mission operations. *Version 2:* Lectures and practical exercises cover topics in antisubmarine warfare tactics, development of sonar search plans, sonobuoy use, detection, classification, and tracking.
Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (10/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1507

1. AN/SQQ-89(V)2 Surface Antisubmarine Warfare Combat Systems Operator, Class C
2. AN/SQQ-89(V)2 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C

Course Number: *Version 1:* K-130-0269. *Version 2:* K-130-0269.
Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.
Length: *Version 1:* 4 weeks (247 hours). *Version 2:* 10 weeks (400 hours).
Exhibit Dates: *Version 1:* 7/93–Present. *Version 2:* 1/90–6/93.
Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate a specific antisubmarine warfare sonar system. *Version 2:* Upon completion of the course, the student will be able to operate a specific antisubmarine warfare sonar system.
Instruction: *Version 1:* Lectures and practical exercises cover topics in sonar, antisubmarine warfare tactics, sonobuoys, detection and classification, tracking, and searching. *Version 2:* Lectures and practical exercises cover topics in sonar, antisubmarine warfare tactics, sonobuoys, detection and classification, tracking, and searching.

Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (10/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1508

1. AN/SQQ-89(V)1/3 Antisubmarine Warfare Combat System Operator, Class C
2. AN/SQQ-89(V)1 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C

Course Number: *Version 1:* K-130-0283. *Version 2:* K-130-0283.

Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: *Version 1:* 6 weeks (240 hours). *Version 2:* 15 weeks (600 hours).

Exhibit Dates: *Version 1:* 7/97–Present. *Version 2:* 1/90–6/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate the combat sensors and support equipment of a specific surface antisubmarine warfare combat system in all phases of the mission. *Version 2:* Upon completion of the course, the student will be able to operate the combat sensors and support equipment of a specific surface antisubmarine warfare combat system in all phases of the mission.

Instruction: *Version 1:* Lectures and practical exercises cover the operation of a sonar system and its associated subsystems. *Version 2:* Lectures and practical exercises cover the operation of a sonar system and its associated subsystems.

Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (10/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1509

Antisubmarine Warfare (ASW) Evaluator Common Core

Course Number: *Version 1:* K-2G-0539. *Version 2:* J-2G-0539.

Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 3 weeks (120 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 1/90–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use technical knowledge and skills to employ antisubmarine sensors and weapons. *Version 2:* Upon completion of the course, the student will be able to use technical knowledge and skills to employ antisubmarine sensors and weapons.

Instruction: *Version 1:* Lectures, laboratories and demonstrations cover the subject matter. *Version 2:* Lectures, laboratories and demonstrations cover the subject matter.

Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (10/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1510

Antisubmarine Warfare (ASW) Officer

Course Number: J-2G-0536.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–6/94.

Learning Outcomes: Upon completion of the course, the student will be able to supervise antisubmarine operations.

Instruction: Lectures, laboratories, and demonstrations cover oceanography, sound propagation, fire control systems, torpedoes, missiles, launching systems, and tactical considerations.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/90).

NV-1715-1511

Dental Equipment Repair Technology, Class C

Course Number: B-198-0013.

Location: School of Dental Assisting and Technology, San Diego, CA.

Length: 24 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use basic electronic test equipment to maintain, troubleshoot, and repair dental equipment.

Instruction: Lectures and practical exercises cover topics in basic electricity, tools, dental chairs, X-rays, pneumatic systems systems, sterilizers, plumbing equipment, dental operating equipment, ultrasonic equipment, film processors, and dental laboratory equipment. Emphasis is on troubleshooting, repair, and maintenance.

Credit Recommendation: In the vocational certificate category, This course is equivalent to a certificate in dental equipment maintenance and repair (6/90); in the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in basic electronics laboratory (6/90).

NV-1715-1514

Microminiature Electronics Repair

Course Number: C-100-3187.

Location: Air Station, Rota, Spain; Air Station, Miramar, San Diego, CA; Air Station, Cecil Field, FL; Air Station, Lemoore, CA; Air Station, Miramar, San Diego, CA; Air Station, El Toro, CA; Air Station, Norfolk, VA; Air Station, Moffett Field, CA; Air Station, Oceana, Virginia Beach, VA; Air Station, Whidbey Island, Oak Harbor, WA; Air Station, Atsugi, Japan.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 1/90–4/94.

Learning Outcomes: Upon completion of the course, the student will be able to repair microelectronic multilayer and flexible printed circuit boards and panels; demonstrate proper replacement of static sensitive devices; maintain and operate the microminiature station; and repair boards requiring electroplating and welded-lead components.

Instruction: Instruction covers the techniques and procedures used to repair electronic circuit boards, including selection of proper tools, flexible conductor repair, static sensitive device replacement, electroplating, encapsulation, and evaluation of repair techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic circuit board repair/miniature component repair techniques (3/91).

NV-1715-1515

SH-2F Light Airborne Multipurpose Systems (LAMPS) Avionics Equipment Organizational Maintenance

Course Number: C-102-3376.

Location: Air Station, North Island, San Diego, CA; Air Station, Norfolk, VA.

Length: 3-4 weeks (116 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair avionics systems, including communications, navigation, radar, and antisubmarine warfare by analyzing the systems and troubleshooting using applicable publications and test equipment.

Instruction: Lectures and practical experiences cover the operation, troubleshooting, and component replacement of the avionics system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/91).

NV-1715-1516

Miniature/Microminiature (2M) Electronics Repair Instructor Certification

Course Number: C-100-3194.

Location: Air Station, Norfolk, VA; Air Station, Miramar, San Diego, CA; Air Station, Cecil Field, FL; Air Station, Moffett Field, CA; Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3-4 weeks (120 hours).

Exhibit Dates: 1/90–11/90.

Learning Outcomes: Upon completion of the course, the student will be able to teach miniature/microminiature electronics repair.

Instruction: Using applicable publications and other references, the student will complete a number of written assignments and progress tests.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/92).

NV-1715-1517

E-2C Basic Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance

Course Number: C-102-3480.

Location: Air Station, Norfolk; Air Station, Miramar, San Diego, CA.

Length: 15 weeks (440 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, and troubleshoot navigation, communications, and computerized weapons systems.

Instruction: Lectures and practical exercises cover electronic weapons systems, vapor cycle systems, computer programming, memory modules, power supplies, and radar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation electronics (3/91).

NV-1715-1518

E-2 Search Radar Set (Transmitter) Intermediate Maintenance

Course Number: C-102-3486.

Location: Air Station, Norfolk, VA.

Length: 10 weeks (400 hours).

Exhibit Dates: 8/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and perform component level repair on a search radar set and a radar test bench set using the appropriate maintenance manuals and procedures.

Instruction: Lectures and laboratory assignments include functional assemblies and subassemblies that make up the search radar set and its support bench set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/91).

NV-1715-1519

E-2C Passive Detection System (PDS) AN/ALR-73 Organizational Maintenance

Course Number: C-102-3495.

Location: Air Station, Miramar, San Diego, CA; Air Station, Norfolk, VA.

Length: 8 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and service the passive detection systems installed in E-2C aircraft using applicable maintenance publications and procedures.

Instruction: Classroom and laboratory instruction cover theory of operation, system overview, block diagram, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/91).

NV-1715-1520

MH-53E Electrical and Instrument Systems Organizational Maintenance

Course Number: C-602-4442.

Location: Air Station, Norfolk, VA.

Length: 9-10 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot typical helicopter electrical and instrument systems, including landing gear, switches, main rotor, tail rotor, instrument systems, and lighting.

Instruction: Lectures and practical exercises use technical data, electrical systems mock-ups, and proper calibration and test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical systems maintenance and troubleshooting (3/91).

NV-1715-1521

E-2C Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance

Course Number: C-102-3481.

Location: Air Station, Miramar, San Diego, CA; Air Station, Norfolk, VA.

Length: 14-15 weeks (480 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, repair, and operate navigation, communications, and computerized weapons systems.

Instruction: Classroom and practical exercises cover the troubleshooting and repair of VHF/UHF radios, navigation systems, and computerized weapons systems using avionics test and calibration instruments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation electronics maintenance (3/91).

NV-1715-1522

MH-53E Communication, Navigation, and Identification (CNI) Systems Organizational Maintenance

Course Number: C-102-3444.

Location: Air Station, Norfolk, VA.

Length: 2-3 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair aircraft communications, navigation, and identification systems using proper publications and test equipment.

Instruction: Lectures and practical exercises cover the operation, troubleshooting, and component replacement of the avionic system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/91).

NV-1715-1523

Tactical Oceanography Support Operator, Class C1

Course Number: C-420-2020.

Location: Navy Detachment, Chanute AFB, IL.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the Hewlett-Packard 9020A computer with HP-UNIX interface using the Tactical Environmental Support System software and prepare environmental briefing packets to support naval operations.

Instruction: Classroom instruction and laboratories cover the operation of the computer system; satellite operations; meteorological, electromagnetic, and electro-optical applications; and oceanography and acoustics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer familiarization and 2 in computer applications (3/91).

NV-1715-1524

Tactical Oceanography Support Interpreter/Briefer, Class C

Course Number: C-420-2019.

Location: Navy Detachment, Chanute AFB, IL.

Length: 7-8 weeks (312 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate oceanographic, meteorological, acoustic, and electromagnetic application programs and generate and analyze tactical environmental support system (TESS) data; prepare tactical and oceanographic summaries; analyze and predict oceanographic and acoustic data; assess environmental impacts on tactical requirements; perform routine operator maintenance on the TESS system.

Instruction: Classroom instruction covers computer basics and software functions, and laboratory training covers the TESS system involving the applications listed in the learning outcomes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data analysis and 3 in computer applications (3/91); in the upper-division baccalaureate category, 3 semester hours in applied marine acoustics (3/91).

NV-1715-1525

Shore Communication Systems Maintenance

Course Number: A-101-0069.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/91–8/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain specific shore communications systems; identify and name the function of all the front panel controls and indicators of each system; given test equipment and technical manuals, troubleshoot a system to the component level; operate the system in all configurations and modes; and measure, trace, and record specific signal, control, and DC Voltages for each subassembly in the transmitter/receiver.

Instruction: Group-paced lectures, written criterion-referenced progress tests, and timed performance tests cover microwave radio assemblies, transmitter fundamentals, and microwave multiplexing.

Credit Recommendation: In the vocational certificate category, 1 semester hour in communications maintenance (6/91).

NV-1715-1526

Terrier Guided Missile Launching System Mk 10 SSCS Analog Difference

Course Number: A-121-0046.

Location: Service School Command, Great Lakes, IL.

Length: 6 weeks (240 hours).

Exhibit Dates: 3/90–6/95.

Learning Outcomes: Before 3/90 see NV-1715-1083. Upon completion of the course, the student will be able to operate and maintain the electrical/electronic, mechanical, and hydraulic systems of a guided missile launching system.

Instruction: Classroom instruction and practical laboratory exercises cover launching system operations, controls, electrical/electronic circuits, and safety precautions.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 3 semester hours in electromechanical maintenance (6/91).

NV-1715-1527

Guided Missile Launching System Mk 13 Mod 4

Course Number: A-121-0474.

Location: Service School Command, Great Lakes, IL.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the electro/hydraulic/mechanical components of a computer-controlled guided missile launch system, troubleshoot electrical/electronics problems down to the module, and use flow charts and mechanical/hydraulic drawings to identify and correct mechanical problems.

Instruction: Lectures and practical laboratory exercises cover system operation, controls, indicators, readouts, electrical/electronic circuits, computer codes, diagnostic procedures, and basic safety precautions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical maintenance and 2 in electronic maintenance (6/91).

NV-1715-1528

AN/FRT-83, 84, 85 Radio Transmitters with the AN/FSO-98 Remote Control System

Course Number: A-101-0052.

Location: Service School Command, Great Lakes, IL.

Length: 13 weeks (520 hours).

Exhibit Dates: 2/91–4/94.

Learning Outcomes: Before 2/91 see NV-1715-0325. Upon completion of the course, the student will be able to identify high frequency exciters, RF amplifiers, power amplifiers, modulation techniques, and digital remote transmitter control and operate, maintain, and troubleshoot 40kw high-frequency (2-30 MHz) transmitters.

Instruction: Lectures and performance exercises use meters, oscilloscopes, frequency counters, distortion meters, and spectrum analyzers in understanding, maintaining, and diagnosing HF transmitters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic communications (6/91).

NV-1715-1529

Terrier Guided Missile Launching System Mk 10 SSCS

Course Number: A-121-0552.

Location: Service School Command, Great Lakes, IL.

Length: 22 weeks (880 hours).

Exhibit Dates: 2/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to identify mechanical, hydraulic, pneumatic, electrical, electronic, and computer systems used in guided missile launching systems and operate, maintain, and troubleshoot the missile launch system.

Instruction: Lectures and performance exercises use meters and oscilloscopes to troubleshoot electronic control systems. Topics include the repair and overhaul of mechanical, hydraulic, and pneumatic components. Students learn to troubleshoot computer problems to the board level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical maintenance, 2 in electrical maintenance, 2 in electronic maintenance, and 2 computer maintenance (6/91).

NV-1715-1530

Mk 15 Close-In Weapons Systems Operation and Maintenance

Course Number: A-113-0078.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Service School Command, Great Lakes, IL.

Length: 29 weeks (1160 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Before 1/91 see NV-1715-1068. Upon completion of the course, the student will be able to apply electronics, mechanics, and hydraulics principles to the operation, maintenance and troubleshooting of rapid-fire gun systems using search and track radar.

Instruction: Lectures and performance exercises use meters, oscilloscopes, frequency counters, and spectrum analyzers in troubleshooting power controllers, environmental systems, computers, search and track radar, servo control systems, and guns.

Credit Recommendation: In the vocational certificate category, 3 semester hours in servo system maintenance (6/91); in the lower-division baccalaureate/associate degree category, 4 semester hours in computer control and 3 in radar maintenance (6/91).

NV-1715-1531

AN/FRT-96 Maintenance Technician

Course Number: A-101-0273.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 9/90–8/93.

Learning Outcomes: Upon completion of the course, the student will apply knowledge of high-frequency exciters, RF amplifiers, power amplifiers, modulation techniques, and digital remote transmitter control to the operation, maintenance, and troubleshooting of the high-frequency (2-30 MHz) transmitter.

Instruction: Lectures and performance exercises use meters, oscilloscopes, frequency counters, distortion meters, and spectrum analyzers in understanding, maintaining, and diagnosing HF transmitters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications (6/91).

NV-1715-1532

TACAN Maintenance

Course Number: A-102-0045.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–7/91.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain TACAN navigation equipment and associated antenna systems; identify, isolate, and correct malfunctions found in the system; perform receiver sensitivity tests; use test equipment to trace signal through the receiver; and replace power klystrons.

Instruction: Lectures and practical laboratory exercises cover the TACAN navigation system using electronic test equipment. Topics covered include TACAN beacon, AC/DC power supplies, antenna group, and radio frequency monitors.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications (6/91).

NV-1715-1533

1. Tactical Support Communications Maintenance Technician
2. Antisubmarine Communications Maintenance

Course Number: *Version 1:* J-101-0817. *Version 2:* J-101-0817.

Location: *Version 1:* Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA. *Version 2:* Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 12 weeks (478 hours). *Version 2:* 25 weeks (960 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 7/90–12/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, troubleshoot, and perform basic maintenance and repair on message processing systems, fiber optic equipment, computers, modems, voice communications systems, data link systems, radio receivers, transceivers, RF propagation equipment and antennas and identify and avoid personnel safety hazards. *Version 2:* Before 7/90 see NV-1715-1175. Upon completion of the course, the student will be able to operate and maintain an antisubmarine communications system comprising a computer, multiplexer/demultiplexer, analog low-and high-speed modems, HF and UHF radio voice and data links, audio tape recorders, and HF/UHF antennas.

Instruction: *Version 1:* Methods of instruction include lectures, laboratory, audiovisuals, group-paced and team-oriented problem solving training, and practical troubleshooting exercises. Topics covered include message processing systems, fiber optic repair/maintenance, computer, printers, modems, signal converters, circuit exchange terminals, multiplexers, data links, keyers/converters, troubleshooting, multichannel tape recorders/reproducers, Vinson shore radio terminals, and radio receivers/transmitters. *Version 2:* Lectures and practical exercises cover the operation and maintenance of data terminals, computers, and data and voice communications systems, including HF and UHF radio and radio antennas.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance, 2 in electronic systems troubleshooting and maintenance, and 2 in data communications systems (5/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance, 3 in electronic systems troubleshooting and maintenance, 3 in communications systems troubleshooting and maintenance, 1 in computer literacy and 3 in data communications systems (10/91).

NV-1715-1534

1. Fire Control System Mk 92 Mod 2 Operation and Maintenance
2. Fire Control System Mk 92 Mod 1/2 Maintenance

Course Number: *Version 1:* A-113-0080. *Version 2:* A-113-0080.

Location: *Version 1:* Fleet Training Center, San Diego, CA. *Version 2:* Fleet Training Center, San Diego; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 32 weeks (1280 hours). *Version 2:* 32 weeks (1280 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 10/91–12/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a weapon system radar cluster consisting of multiple radar types, the equipment which controls the radar cluster, and associated computer-based weapon (gun and missile) control consoles. *Version 2:* Before 10/91 see NV-1715-1087. Upon completion of the course, the student will be able to troubleshoot, repair, and maintain a weapon system radar cluster consisting of multiple radar types, the equipment which controls the radar cluster, and associated computer-based weapon (gun and missile) control consoles.

Instruction: *Version 1:* Lectures, laboratories, and practical exercises cover the operation, troubleshooting, repair, and maintenance of the computer, computer peripherals, servomechanisms, radar displays, continuous-wave radar, and radar and system power supplies and amplifiers. *Version 2:* Lectures, laboratories, and practical exercises cover the operation, troubleshooting, repair, and maintenance of the computer, computer peripherals, servomechanisms, radar displays, continuous-wave radar, and radar and system power supplies and amplifiers.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance, 3 in electronic systems troubleshooting and maintenance, 3 in radar systems, and 3 in computer systems and organization (10/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance, 3 in electronic systems troubleshooting and maintenance, 3 in radar systems, and 3 in computer systems and organization (10/91).

NV-1715-1535

3"/50 Rapid Gun Fire Twin Mount Power Drive and Gun

Course Number: J-041-0120.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 3/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot a basic electrical circuit using analog or digital multimeters and determine the expected operation of an electrical circuit from a schematic.

Instruction: Lectures and practical exercises cover the use of multimeters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic electricity laboratory (10/91).

NV-1715-1536

Mk 47 Computer Operational Maintenance

Course Number: J-113-0105.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 1-2 weeks (73 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain an electromechanical gun control system.

Instruction: Lectures and practical exercises cover electromechanical gun control mechanisms and circuitry.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-1715-1537

1. Carrier Based Tactical Support Center Acoustic System Maintenance
2. CV Antisubmarine Warfare (ASW) M Acoustic Systems Maintenance Technician

Course Number: *Version 1:* J-102-0393. *Version 2:* J-102-0393.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 19 weeks (760 hours). *Version 2:* 19 weeks (760 hours).

Exhibit Dates: *Version 1:* 7/94–Present. *Version 2:* 1/90–6/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain and troubleshoot an electronic submarine detection system consisting of sonar, acoustic signal processing disk drives, CRT monitor, telemetry receiver, and operator console equipment. *Version 2:* Upon completion of the course, the student will be able to maintain, troubleshoot, and repair an electronic submarine detection system consisting of sonar, acoustic signal processing and analysis, disk and tape drive, CRT monitor, telemetry receiver, and operator console equipment.

Instruction: *Version 1:* Lectures and practical exercises cover computer-based signal processing equipment. Topics include CRTs, operator consoles, computer telemetry, data receiver/transmitter, sonar equipment, specialized digital signal processing circuits, and associated power supplies. *Version 2:* Lectures and practical exercises cover computer-based signal processing and analysis of circuits, including tape and disk drives, CRTs, operator console, computer, telemetry and data receiver/transmitter, sonar equipment, and specialized digital signal processing circuits and associated power supplies.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 6 semester hours in computer system maintenance and repair (communications), 3 in UNIX system administration, and 3 in telecommunication systems and repair (5/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance, 3 in electronic systems troubleshooting and maintenance, 3 in computer literacy, 3 in radio communications systems troubleshooting and maintenance, and 3 in sonar systems (10/91).

NV-1715-1538

Harpoon Weapon System AN/SWG(V)/1A(V) Engagement Planner (Surface Application)

Course Number: J-113-1001.

Location: Fleet Training Group, Pearl Harbor, HI; Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and direct the deployment of a missile weapon system, including missile selection, missile tactics, missile safety, missile launching, and launch problem solving.

Instruction: Lectures and practical exercises cover launching a tactical guided missile.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-1715-1539

Mk 56 Gun Fire Control System Operation and Maintenance

Course Number: J-113-0097.

Location: Fleet Combat Training Center, Yorktown, VA.

Length: 16 weeks (624 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a vacuum tube gun fire control system.

Instruction: Lectures and practical exercises cover the gun fire control system.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic systems (vacuum tube) troubleshooting (10/91).

NV-1715-1540

Harpoon Weapon System AN/SWG-1(V)/1A(V) Maintenance Differences

Course Number: J-113-1004.

Location: Fleet Training Group, Pearl Harbor, HI; Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a shipboard weapons system.

Instruction: Lectures and practical exercises cover the weapon system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-1715-1541

Armored Box Launcher Maintenance and All Up Round Handling

Course Number: J-121-0506.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain an electrohydraulic guided missile mechanical launching system to the module and component level.

Instruction: Lectures and laboratory exercises cover missile launcher electrical, hydraulic, mechanical, fire suppression, and missile firing control circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electromechanical troubleshooting and maintenance and 3 in electrical systems troubleshooting (10/91).

NV-1715-1542

Air Intercept Controller

(Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification)

Course Number: *Version 1:* K-221-0027. *Version 2:* K-221-0027.

Location: *Version 1:* Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA. *Version 2:* Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: *Version 1:* 6 weeks (148 hours). *Version 2:* 6 weeks (240 hours).

Exhibit Dates: *Version 1:* 5/95–Present. *Version 2:* 1/90–4/95.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to direct intercept aircraft to a target aircraft using information provided by aircraft plotting displays.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and practical exercises cover air intercept control, including fleet anti-air warfare, threat intelligence, interceptor aircraft characteristics and air-to-air weapons systems, air navigation aids, communications equipment, intercept control communications procedures and vocabulary, radar indicator equipment, identification equipment, and preparation and procedures for NTDS control.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in air traffic control and 5 in air traffic control laboratory (1/93).

NV-1715-1543

5"/54 Mk 45 Mod 0 Gun Mount, Class C1

Course Number: J-113-0054.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 17 weeks (657 hours).

Exhibit Dates: 8/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify electronic components/circuits used in control circuit applications, including diodes, transistors, relays, SCRs, DIACs, TRIACs, and NAND/NOR digital logic elements.

Instruction: Lectures and laboratories cover the subject matter.

Credit Recommendation: In the vocational certificate category, 2 semester hours in electronic circuit applications (10/91).

NV-1715-1544

AN/BSY-1 Acoustic Combined Basic Maintenance

Course Number: A-130-0311.

Location: Submarine School, New London, Groton, CT.

Length: 12 weeks (424 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and maintain a computer-based sonar system used in submarines.

Instruction: Lectures and practical exercises focus on the maintenance of the sonar system. Computer is used to run diagnostic software.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1545

AN/BSY-1 Acoustic Advanced Maintenance Conversion

Course Number: A-130-0317.

Location: Submarine School, New London, Groton, CT.

Length: 12 weeks (413 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and maintain a computer-based sonar system and troubleshoot a mainframe computer, microprocessor-based computer, computer interfaces, computer monitors, and disk drives.

Instruction: Lectures and practical exercises emphasize advanced troubleshooting problems. Course includes signal tracing troubleshooting techniques on sonar high-frequency transmitters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 1 in microprocessors, and 1 in computer systems and organization (10/91).

NV-1715-1546

AN/BSY-1 Acoustic Advanced Maintenance

Course Number: A-130-0314.

Location: Submarine School, New London, Groton, CT.

Length: 18 weeks (577 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and maintain a computer-based sonar system and troubleshoot a mainframe computer, microprocessor-based computer, computer interfaces, computer monitors, and disk drives.

Instruction: Lectures and practical exercises emphasize advanced troubleshooting problems. Course includes signal tracing troubleshooting techniques on sonar high-frequency transmitters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 1 in microprocessors, and 1 in computer systems and organization (10/91).

NV-1715-1547

Shipboard Non-Tactical Automated Data Processing (SNAP 2) Ship System Coordinator

Course Number: A-531-0020.

Location: Trident Training Facility, Bangor, Bremerton, WA; Submarine School, New London, Groton, CT.

Length: 2 weeks (55 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a shipboard computer system used for supply, administration, and maintenance.

Instruction: Lectures and practical exercises cover basic computer operations and use of appropriate manuals.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (10/91).

NV-1715-1548

AN/BSY-1 Acoustic Combined Basic Maintenance Conversion

Course Number: A-130-0316.

Location: Submarine School, New London, Groton, CT.

Length: 9 weeks (312 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and maintain a computer-based sonar system used in submarines.

Instruction: Lectures and practical exercises focus on the maintenance of the sonar system. Computer is used to run diagnostic software.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1549

Submarine Interior Communications Systems

Course Number: A-623-0110.

Location: Submarine School, New London, Groton, CT.

Length: 3 weeks (83 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe and maintain synchro signal amplifiers and associated components like power supply, alarm relays, control transformers, servo motor, and gear train and use special tools and test equipment required for preventive and documented corrective maintenance of the submarine interior communications system.

Instruction: Lectures and practical exercises cover the above subject matter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in control systems and 2 in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1550

Submarine Sonar Technician Unique Electronics

Course Number: A-130-0258.

Location: Submarine School, New London, Groton, CT.

Length: 4 weeks (152 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe electromechanical, synchro, servo, and digital systems related to submarine sonar systems and be operate and analyze computer data processing equipment.

Instruction: Lectures and performance exercises use meters, signal generators, bridges, and oscilloscopes in troubleshooting sonar systems. Sonar-generated computer data is analyzed.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in control systems and 3 in digital computers (10/91).

NV-1715-1551

AN/WLR-1G Combined Maintenance

Course Number: A-233-0030.

Location: Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 5-6 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Objectives: Upon completion of the course, the student will be able to describe the mechanical, synchro, servo amplifiers, electrical, electronic, and computer systems necessary to operate, maintain, and troubleshoot a spectrum analyzer-based system used on submarines to collect and analyze radio frequency data in the UHF to SHF range.

Instruction: Lectures and performance exercises use meters, RF generators, frequency counters, and oscilloscopes in diagnosing the UHF to SHF receivers used in an electronic support measures system. Students repair and overhaul the system to the component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in control systems, 1 in electronic communications, and 1 in microwave systems (10/91).

NV-1715-1552

Combat Control System (CCS) Mk 1 Mod 0 Combined Maintenance

Course Number: A-130-0278.

Location: Submarine School, New London, Groton, CT.

Length: 10 weeks (366 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and repair a combat control system, perform tests, recognize and interpret malfunctions, follow fault isolation procedures, and perform repairs.

Instruction: Lectures and practical exercises use meters, generators, and oscilloscopes to troubleshoot and analyze the attack control consoles, graphics plotter, weapon control console, digital missile simulator, weapons monitor panel, and memory storage unit used in a combat control system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1553

Electronic Surveillance Measures (ESM) AN/BLD-1 Direction Finding Set Combined Maintenance

Course Number: A-102-0271.

Location: Submarine School, New London, Groton, CT.

Length: 4 weeks (156 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe, operate, and maintain a radar detection system used to identify and locate radar emanating sources.

Instruction: Lectures and performance exercises use meters, signal generators, oscilloscopes, and spectrum analyzers in maintaining and analyzing the above deck antenna array, receiver processing unit, display, general-purpose computer, and recording unit used in the direction finding set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1554

Submarine Communications Supervisor

Course Number: A-101-0235.

Location: Submarine School, New London, Groton, CT.

Length: 7 weeks (223 hours).

Exhibit Dates: 1/90–9/92.

Learning Outcomes: Upon completion of the course, the student will be able to describe basic communications principles, operational procedures, and equipment repair techniques and repair ELF, VLF, HF, UHF, and SHF systems commonly used for submarine communications systems.

Instruction: Lectures and tests are used to ensure knowledge and comprehension of safety, test equipment, component testing, power supplies, amplifiers, oscillators, receivers, transmitters, ESD, and troubleshooting techniques for the many different communications systems used on submarines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance and 2 in electronic communications (10/91).

NV-1715-1555

NAVSTAR Global Positioning System (GPS) AN/WRN-6(V) Combined Maintenance

Course Number: A-102-0332.

Location: Fleet Submarine Training Facility, Pearl Harbor, HI; Submarine Base, New London, Groton, CT; Fleet Antisubmarine Training Center, Charleston, SC.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe global positioning theory, operate a specific GPS receiver, and perform operator maintenance on the receiver.

Instruction: Lectures and practical exercises cover the GPS receiver.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1556

Electronics Technician, Class A for Attack Class Submarines

Course Number: *Version 1:* A-100-0090. *Version 2:* A-100-0090.

Location: Submarine School, New London, Groton, CT.

Length: *Version 1:* 10 weeks (401 hours). *Version 2:* 12 weeks (477 hours).

Exhibit Dates: *Version 1:* 7/91–2/94. *Version 2:* 1/90–6/91.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe functional characteristics of communications systems, including radio wave propagation, radio receivers, and radar systems; and describe the computer organization and digital and microprocessor systems used in a microcomputer. *Version 2:* Upon completion of the course, the student will be able to describe vacuum tube operations, functional properties of communications systems, including radio wave propagation, radio receivers, and radar systems; and describe the computer organization and digital and microprocessor systems used in a microcomputer.

Instruction: *Version 1:* Lectures and laboratory exercises supported by audiovisual materials cover modulation and demodulation techniques, radio receivers, electromechanical systems, motors and generators, fundamentals of digital systems and test equipment, radio wave propagation, antenna theory, radar fundamentals, and electronic warfare support measures. *Version 2:* Lectures and laboratory exercises supported by audiovisual materials cover vacuum tubes, modulation and demodulation techniques, radio receivers, electromechanical systems, motors and generators, fundamentals of digital systems and test equipment, radio wave propagation, antenna theory, radar fundamentals, and electronic warfare support measures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications, 3 in radar systems, and 4 in computer systems troubleshooting and maintenance (10/91). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in fundamentals of vacuum tubes, 3 in electronic communications, 3 in radar systems, and 4 in computer systems troubleshooting and maintenance (10/91).

NV-1715-1557

Digital/Microprocessor Basics

Course Number: A-662-0149.

Location: Submarine School, New London, Groton, CT.

Length: 2-3 weeks (104 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to convert between decimal, binary, octal, hexadecimal, and 2's complement number systems; create truth tables; simplify Boolean expressions; analyze digital circuits containing gates, flip-flops, registers, and counters; analyze digital-to-analog and analog-to-digital circuits; and describe microprocessor memories, hardware, and software.

Instruction: Lectures and practical exercises cover the subject matter listed above.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital principles and 1 in microprocessors (10/91).

NV-1715-1558

Mk 48 Torpedo Basic Maintenance

Course Number: A-123-0158.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, San Diego, CA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (56 hours).

Exhibit Dates: 1/90–5/94.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot the mechanical, hydraulic, pneumatic, electrical, electronic, and computer systems of a submarine-launched torpedo.

Instruction: Lectures and performance exercises use digital voltmeters in maintaining and calibrating the drive and control system of the specific torpedo.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in control systems (10/91).

NV-1715-1559

AN/BSY-1(V) Combat Control Combined Maintenance

Course Number: A-113-0120.

Location: Submarine School, New London, Groton, CT.

Length: 11 weeks (440 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair a plotter, acoustic sensor, and missile launch system used in submarines.

Instruction: Lectures and practical exercises cover electrostatic discharge, safety, maintenance procedures, plotters, alarms, displays, acoustic sensors, control computers, and missile launch control systems. Missile launch control systems include electrical and hydraulic actuators for positioning missiles for launch. Also included are basic sonar principles.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in automated control systems and 3 in electronic systems troubleshooting and maintenance (10/91).

NV-1715-1560

SEAL Delivery Vehicle Electronic Maintenance

Course Number: K-102-0306.

Location: Special Warfare Training Center, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and repair all electronic systems and subsystems on a submersible vehicle.

Instruction: Lectures and laboratories provide instruction on video circuitry of navigation devices, analog and digital circuitry of computer and communications systems, electrical systems of power storage devices and electric motor propulsion systems, and test equipment for troubleshooting and analysis.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/92).

NV-1715-1561

SH-60F/HH-60H Electronic Systems Consolidated Maintenance

Course Number: E-102-0823.

Location: Helicopter Antisubmarine Squadron 10, North Island, CA.

Length: 13 weeks (502 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair avionic/electronic systems using appropriate technical data and testing equipment.

Instruction: Lectures and practical exercises cover navigation, LF and HF communications, TACAN, radar, electronic altimeter, transponder, sonar, and computer systems. Students learn troubleshooting and repair of helicopter avionic/electronic/computer systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer basics and 3 in advanced avionics (3/92).

NV-1715-1562

AN/ARM-155-156 TACAN Test Sets and UN/UPM-137A Radar Test Set Calibration/Repair Intermediate Maintenance

Course Number: C-198-3065.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Norfolk, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 6/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use basic and high-frequency test and calibration equipment like oscilloscopes, RF signal generators, spectrum analyzers, and RF power meters; and troubleshoot, repair, and calibrate high-frequency systems like radar test sets.

Instruction: Lectures and practical exercises cover the operation, repair, and calibration of the test sets including receiver and display terminal and use of microwave test and calibration equipment like oscilloscope, RF signal generator, counter, power meter, shop safety precautions, and electrostatic discharge handling procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (5/92).

NV-1715-1564

AN/ASA-65(V) Magnetic Compensator Group Intermediate Maintenance

Course Number: C-102-3594.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the students will be able to operate, maintain, and troubleshoot the magnetic compensator.

Instruction: Lectures, practical exercises, and examinations cover the operation of magnetic amplifiers, computer control circuitry, servo systems, power supplies, balanced modulators, and summing amplifiers within the compensator.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1565

SG-791/ARR-72(V) Acoustic Sensor Signal Generator Intermediate Maintenance

Course Number: C-102-3603.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 1-2 weeks (48 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot acoustic sensors and signal generators used for underwater sensing and detection.

Instruction: Lectures and performance exercises use meters, oscilloscopes, and test sets to analyze and troubleshoot an acoustic sensor station signal generator.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1566

AN/AQA-7A(V)8 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance

Course Number: C-130-3573.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 15-16 weeks (624 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot a sonar computer system used to detect and track submarines and apply sonar, computer, and UHF radio principles in analyzing system performance.

Instruction: Lectures, performance exercises, and examinations use meters, storage oscilloscopes, distortion analyzers, counters, and wave analyzers to analyze and troubleshoot sonobuoys and the UHF receiver computer system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 1 in computer systems troubleshooting and maintenance (7/92).

NV-1715-1567

AN/AQA-7A(V)10, 11, 12 SONAR COMPUTER-RECORDER GROUP AND AN/ASA-76A GENERATOR TRANSMITTER GROUP INTERMEDIATE MAINTENANCE

Course Number: C-130-3585.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 16 weeks (640 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot a sonar computer system used to identify and track underwater objects and apply sonobuoy data collection, display, and storage principles.

Instruction: Lectures, performance exercises, and examinations use meters, signal generators, distortion analyzers, spectrum analyzers, and test sets to analyze and repair a sonar computer system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 1 in computer systems troubleshooting and maintenance (7/92).

NV-1715-1568

P-3 ARMAMENT/ORDNANCE INTERMEDIATE MAINTENANCE

Course Number: C-646-3532.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to inspect, assemble, and disassemble, troubleshoot, and measure an electromechanical systems.

Instruction: Lectures, practical exercises, and examinations cover procedural inspection guidelines, precision measuring devices, multimeter applications, scales, calipers, and torque wrench.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical systems troubleshooting and maintenance (7/92).

NV-1715-1569

P-3C ARMAMENT/ORDNANCE SYSTEM ORGANIZATIONAL MAINTENANCE

Course Number: C-646-3571.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot the P-3C armament ordnance weapon delivery system.

Instruction: Lectures, laboratory exercises, and examinations cover armament ordnance interface system, bomb bay stores system, wing stores system, jettison system, harpoon weapons system, and search stores system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electromechanical systems troubleshooting and maintenance (7/92).

NV-1715-1570

AN/APX-100(V) TRANSPONDER INTERMEDIATE MAINTENANCE

Course Number: C-102-4025.

Location: Air Maintenance Training Group Detachment, Lemoore, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot an IFF microwave transponder system used on aircraft to send critical flight information to aircraft controllers, including microwave transmitters and receivers, interrogation signals, and antennas.

Instruction: Lectures, performance exercises, and examinations use meters and oscilloscopes to analyze and repair IFF transponders.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1572

AN/APX-72 RADAR IDENTIFICATION SYSTEM INTERMEDIATE MAINTENANCE

Course Number: C-102-3067.

Location: Air Maintenance Training Group Detachment, Cherry Point, NC; Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Lemoore, CA; Air Maintenance Training Group Detachment, Tustin, CA; Air Maintenance Training Group Detachment, New River, NC; Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–12/94.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot a microwave identification transponder (IFF) used in aircraft; apply IFF principles including mode 1, 2, 3, 4, and C coding, oscillators, triggers, bandpass filters, IIF decoding logic, and antennas.

Instruction: Lectures, performance exercises, and examinations use meters, oscilloscopes, and test sets to analyze and repair an aircraft IFF transponder.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (8/93).

NV-1715-1573

AN/AKT-22(V) TELEMETRIC DATA TRANSMITTING SET INTERMEDIATE MAINTENANCE

Course Number: C-102-3400.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a telemetric data transmitting system.

Instruction: Lectures, performance exercises, and examinations cover the operation, troubleshooting, and repair of a telemetric data set, including transmitter operations, antenna coupling, and circuitry repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1574

OA-8962/ASH RECORDING GROUP INTERMEDIATE MAINTENANCE

Course Number: C-102-3571.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to align, troubleshoot, and repair an aircraft recording system used to record infrared picture information and apply video principles including composite, noncomposite, sync signals, blanking, and CRTs.

Instruction: Lectures, performance exercises, and examinations use meters, oscilloscopes, video generators, and test sets to analyze and troubleshoot video recording systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1575

AN/APN-187 DOPPLER RADAR (DIVARS) INTERMEDIATE MAINTENANCE

Course Number: C-102-3574.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course the student will be able to maintain and troubleshoot a Doppler radar system used to measure altitude and ground speed in aircraft navigation; and apply microwave principles including FM and CW modulation, computer frequency tracking and antennas.

Instruction: Lectures, performance exercises, and examinations using meters, oscilloscopes, spectrum analyzers, and signal generators to analyze and troubleshoot Doppler radar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in microwave radar systems (7/92).

NV-1715-1576

AN/ARC-143, AN/ARC-143A, and AN/ARC-143B UHF Radio Set Intermediate Maintenance

Course Number: C-102-3581.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot UHF radio sets used for transmitting sonar information from sonobuoys to aircraft and air-to-ground voice communication and apply communication principles including AM, FM, FSK modulation and direction finding techniques, receivers, and transmitters.

Instruction: Course includes lectures and performance exercises using meters, oscilloscopes, spectrum analyzers, and test sets to analyze and troubleshoot UHF radio systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications (7/92).

NV-1715-1577

P-3C Navigation/Communication Organizational Maintenance

Course Number: C-102-3591.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 7-8 weeks (304 hours).

Exhibit Dates: 5/90–Present.

Learning Outcomes: Before 5/90 see NV-1715-0533. Upon completion of the course, the student will be able to operate, test, and troubleshoot aircraft communications and navigation systems.

Instruction: Course includes lectures and practical exercises in the operation, testing, and troubleshooting of communications, radar, radar altimeters, radio navigation systems, teletype, teleprinter, digital data link, and computers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications and 6 in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1578

AN/AQH-4 and AN/AQH-4(V)2 Sound Recorder/Reproducer Set Intermediate Maintenance

Course Number: C-102-3596.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot a 28 channel audio recording system used to record multiple sonar signals and crew conversations and apply principles of audio amplifiers and magnetic tape recording devices.

Instruction: Lectures, performance exercises, and examinations cover meters and oscilloscopes to analyze and repair audio recording and playback tape systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1579

P-3C AN/ASW-31 Automatic Flight Control System Intermediate Maintenance

Course Number: C-102-3604.

Location: Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain an automatic flight control system using the universal avionic component test set.

Instruction: Lectures, practical exercises, and examinations cover the universal avionics component test set, control panels, measurement displays, check out procedures, signal modules, axis amplifiers, control and bite panels, and gyroscope assembly, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1580

AN/AAS-36 Infrared Detection System Intermediate Maintenance

Course Number: *Version 1:* C-198-3571A. *Version 2:* C-198-3571.

Location: *Version 1:* Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA. *Version 2:* Air Maintenance Training Group Detachment, Moffett Field, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: *Version 1:* 8 weeks (240 hours). *Version 2:* 5 weeks (200 hours).

Exhibit Dates: *Version 1:* 11/95–Present. *Version 2:* 1/90–10/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to troubleshoot, perform operational testing, align, and repair infrared detection systems. *Version 2:* Upon completion of the course, the student will be able to troubleshoot, align, and repair infrared detection systems.

Instruction: *Version 1:* Lectures, practical exercises, and examinations cover thermal imaging, temperature and electromagnetic energy relationships, wavelength, transmission of infrared energy, and basic concepts of infrared systems. Block-diagram analysis using applicable publications and equipment to test and repair infrared detection systems is also covered. *Version 2:* Lectures, practical exercises, and examinations cover thermal imaging, temperature and electromagnetic energy relationships, wavelength, transmission of infrared energy, and basic concepts of infrared systems. Block-diagram analysis using applicable publications and equipment to test and repair infrared detection systems is also covered.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electro-optical systems troubleshooting and maintenance (10/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electro-optical systems troubleshooting and maintenance (7/92).

NV-1715-1581

AN/ASQ-81(V) Magnetic Anomaly Detection Set Intermediate Maintenance

Course Number: C-102-3109.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 1-2 weeks (72 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Before 9/91 see NV-1715-0559. Upon completion of the course, the student will be able to maintain and troubleshoot a magnetic anomaly detection set used to detect objects underwater and apply magnetic principles, magnetic fields, anomaly detection principles, magnetometers, and towed reel devices.

Instruction: Course includes lectures, performance exercises, and examinations using meters, oscilloscopes, synchronizers, counters, and test sets to analyze and repair the detector.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance and 1 in electrical control systems (7/92).

NV-1715-1582

AN/APN-182A(V) Radar Navigation Set Intermediate Maintenance

Course Number: C-102-3398.

Location: Air Maintenance Training Group Detachment, North Island, San Diego, CA; Air Maintenance Training Group Detachment, Jacksonville, FL.

Length: 4-5 weeks (184 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot a Doppler radar navigation system used to measure aircraft velocity and drift and apply the principles of receivers, transmitters, antennas, waveguides, and display devices.

Instruction: Lectures, performance exercises, and examinations use meters, oscilloscopes, spectrum analyzers, and test sets to analyze and repair a Doppler radar navigation set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in microwave systems and 2 in electronic systems troubleshooting and maintenance (7/92).

NV-1715-1583

Miniature Microminiature Electronic Repair Inspector

Course Number: A-100-0058.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 4 weeks (133-160 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to disassemble, repair, and solder miniature circuit card components, surface mount devices, terminals, solderable connections, circuit card assembly laminates and conductors; replace multilead devices on single- and double-sided circuit card assemblies; and perform preventive maintenance procedures for the repair station.

Instruction: Instruction includes lectures and practical exercises with an emphasis on practice. Topics include high-reliability soldering theory and techniques, removal and installation of circuit board components, SMD, handling of sensitive electronic devices, and electrical safety procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic maintenance and troubleshooting (10/92).

NV-1715-1584

Miniature Microminiature Instructor Certification

Course Number: A-100-0057.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 3 weeks (100-120 hours).

Exhibit Dates: 1/92–11/94.

Learning Outcomes: Upon completion of the course, the student will be able to disassemble, repair, and solder miniature circuit card components, surface mount devices, terminals, solderable connections, circuit card assembly laminates and conductors; replace multilead devices on single- and double-sided circuit card assemblies; and perform preventive maintenance procedures for the repair station.

Instruction: Instruction contains lecture and practical exercises with an emphasis on practice. Topics include high-reliability soldering theory and techniques, removal and installation of circuit board components, SMD, handling of sensitive electronic devices, and electrical safety procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic maintenance and troubleshooting (10/92).

NV-1715-1585

AN/SPS-55 Radar Set Maintenance

Course Number: A-104-0162.

Location: Fleet Training Center, San Diego, CA; Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (100-120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of this course, the student will have the skills and knowledge necessary to operate and to maintain the radar set.

Instruction: Course includes operation and maintenance of the radar set, including power distribution, timing and frequency generation, receiving and video systems, antenna systems, and system troubleshooting and repair to the lowest repairable or replaceable component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in radar troubleshooting and system maintenance (6/94).

NV-1715-1586

AN/SPA-25(V), SB-1505/SP Maintenance
(AN/SPA-25 Series Radar Indicator, C-11300/SPA-25E Off-Centering Controller and SB-15005C/SP Switchboard Maintenance)

Course Number: A-104-0129.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 5 weeks (166-200 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Before 4/91 see NV-1715-0029. Upon completion of the course, personnel will be able to maintain, troubleshoot, and perform preventive maintenance on a radar signal distribution switchboard, modified radar indicators, an off-centering controller, and a radar indicator at the organizational level.

Instruction: Lectures and laboratory exercises cover operation and troubleshooting to the circuit board/component level using logical procedures. Course includes maintenance of various units of a series radar repeater and radar switchboard using high-frequency test equipment, digital troubleshooting and alignment procedures, and high-voltage DC supplies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar troubleshooting and systems maintenance (6/94).

NV-1715-1587

AN/URN-25 Afloat TACAN Maintenance
(AN/URN-25 TACAN Maintenance)

Course Number: A-102-0239.

Location: Service School Command, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Before 1/92 see NV-1715-1137. Upon completion of the course, personnel will be able to do preventive and corrective maintenance on the tactical air navigation system (TACAN) AN/URN-25 which includes a beacon and two antenna groups. The corrective maintenance is limited to card/module level replacement.

Instruction: For an earlier version of the course, see NV-1715-1137. Lectures and laboratory exercises in operation, maintenance, and repair of the AN/URN-25 navigational set including AC/DC power supplies, coder-keyer circuits, receiver transmitter circuits, control indicator circuits, and FSK circuits. The power and monitoring circuits of the OE-273/URN antenna group and the power, monitoring, and modulation generator circuits of the OE-258/URN antenna are included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar system troubleshooting and maintenance (6/94).

NV-1715-1588

1. AIMS Mk 12 IFF Maintenance
2. AIMS Mk 12 IFF System Maintenance

Course Number: *Version 1:* A-102-0062. *Version 2:* A-102-0062.

Location: *Version 1:* Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA. *Version 2:* Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: *Version 1:* 22 weeks (880 hours). *Version 2:* 18 weeks (720 hours).

Exhibit Dates: *Version 1:* 6/94–Present. *Version 2:* 12/91–5/94.

Learning Outcomes: *Version 1:* Before 11/91 see NV-1715-0812. Upon completion of the course, the student will be able to demonstrate the necessary skills to operate, troubleshoot, and maintain a complete aircraft interrogation system. The student must apply digital and analog circuit theory to troubleshoot various electronic circuits to the component level. *Version 2:* Before 12/91 see NV-1715-0812. Upon completion of the course, the individual will have the knowledge and skills necessary to align, maintain, troubleshoot, and repair all aspects of the aircraft identification system to the component level.

Instruction: *Version 1:* Lectures, lab exercises, and practical examples cover the aircraft interrogation system, transponder systems, interrogator systems, interface blankers, and decoder circuit systems. Topics covered in these systems include digital logic, serial communications, signal transmitters, operational amplifiers, advanced electronic circuits, and circuit analysis to the component level. *Version 2:* Lecture and hands-on experience in the laboratory includes pulse modulated transmitters, receivers, digital signal processing circuits, displays, pulse timing, power supplies, and antennas. Circuits analysis and troubleshooting to the component level are stressed.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in digital circuit logic, 3 in analog circuits, and 3 in communications circuit analysis (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic troubleshooting and maintenance (10/92).

NV-1715-1589

AN/URN-20 Radio Set Maintenance
(AN/URN-20 TACAN Maintenance)

Course Number: A-102-0034.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (186-187 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Before 1/92 see NV-1715-0193. Upon completion of the course, personnel will be able to do preventive and corrective maintenance on a tactical air navigation system which includes a beacon and antenna group.

Instruction: Lectures and practical exercises cover radio receiver/transmitter operation, including basic air navigation systems, power distribution, antenna system, receiver, keyer, coder, and transmitter. Maintenance, test equipment operation, and troubleshooting techniques are also included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar system troubleshooting and maintenance (11/95).

NV-1715-1590

FFG-7 Class Navigation Electronics Subsystem Maintenance

Course Number: A-102-0295.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 15 weeks.

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of this pipeline course, consisting of four independent courses, the student will be able to to troubleshoot and repair a specific military radio navigation set.

Instruction: Lectures and practical exercises specific to the radio navigation set are presented with emphasis on isolation and correction of malfunctions. For complete descriptions, see A-104-0129 (NV-1715-0029 and NV-1715-1586), A-102-0239 (NV-1715-1137 and NV-1715-1587), and A-104-0162 (NV-1715-1585).

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (11/95).

NV-1715-1591

Field Calibration Activity Maintenance

Course Number: *Version 1:* A-198-0056. *Version 2:* A-198-0056.

Location: *Version 1:* Technical Training Unit, Keesler AFB, MS. *Version 2:* Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 3 weeks (120 hours). *Version 2:* 3 weeks (120 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/92–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will apply the basic theory and operation of electronic test equipment identify measurement errors and perform field calibration of electronic test equipment covered under the Navy meteorology and calibration program. *Version 2:* Upon completion of the course, the student will be able to identify measurement errors and perform field calibration of electronic test equipment covered under the Navy meteorology and calibration program.

Instruction: *Version 1:* Lectures and laboratory exercises cover identification of measurement errors and actual calibration procedures for modularly equipped and configured calibrators and analyzers, including digital multimeters, oscilloscopes, frequency counters, and signal generators. Also included is instruction in using an instrument controller and the associated software. *Version 2:* Laboratory exercises cover identification of measurement errors and actual calibration procedures for modularly equipped and configured calibrators and analyzers, including digital multimeters, oscilloscopes, frequency counters, and signal generators. Also included is instruction in using an instrument controller and the associated software.

Credit Recommendation: *Version 1:* In the vocational certificate category, 3 semester hours in electronic test equipment calibration (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic test equipment calibration (10/92).

NV-1715-1592

SB-4220/SP Switchboard Maintenance
(SB-4220/SP Radar Signal Distribution Switchboard Maintenance)

Course Number: A-104-0213.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (66-80 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform preventive and corrective maintenance on a specific radar switchboard.

Instruction: Instruction includes lecture and practical exercises in major functional components, technical documentation, operational procedures, documented fault isolation, alignment adjustments, and proper safety procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in radar system troubleshooting and maintenance (6/94).

NV-1715-1593

AN/WRN-5A Satellite Navigation Set Maintenance

Course Number: A-102-0357.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 5-6 weeks (133-160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair a specific satellite receiving set.

Instruction: Lectures and practical exercises cover the major functions of the equipment; operating procedures, adjustments, and troubleshooting procedures to the card level; and removal and replacement procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications systems troubleshooting and maintenance and 1 in communications systems laboratory (10/92).

NV-1715-1594

AN/SPS-49(V)1 Radar Maintenance

Course Number: A-104-0176.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Before 1/92 see NV-1715-1093. Upon completion of the course, the individual will have the knowledge and skills necessary to align, maintain, troubleshoot, and repair all aspects of the radar system to the board level.

Instruction: Lectures, hands-on experience in the laboratory, and performance examinations cover pulsed transmitters, receivers, digital signal processing, displays, antennas, pressurized waveguides, and power supplies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (6/94).

NV-1715-1595

AN/SYQ-7(V)5 Naval Modular Automated Communications System (NAVMACS V5) Operator
(AN/SYQ-7(V)5 Naval Modular Automated Communications System Operator)

Course Number: A-260-0065.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 11/91–Present.

Learning Outcomes: Upon completion of the course, the individual will have the knowledge and skills required to operate and maintain a naval modular automated communications system. In addition, the student will be able to use appropriate diagnostic aids isolate faults and take corrective actions to maintain system integrity.

Instruction: Lectures and laboratory experiences include the theory of operation of an computer-controlled satellite communications system and specific operational characteristics, maintenance, and fault isolation techniques for the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications systems theory and maintenance (6/94).

NV-1715-1596

DD-963 Facilities Control Quality Monitoring Operator

Course Number: A-202-0035.

Location: Service School Command, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 6/90–10/92.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot systems within the Spruance class destroyer HF radio communications system.

Instruction: Instruction includes lectures and practical exercises in HF transister and receiver circuitry, antenna couplers, circuit monitoring, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications systems operation and maintenance (10/92).

NV-1715-1597

AN/SPS-40B/C/D Radar Set Maintenance

Course Number: A-104-0133.

Location: Service School Command, San Diego, CA.

Length: 9 weeks (300 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Before 2/92 see NV-1715-0809. Upon completion of this course, the individual will be able to troubleshoot and repair all aspects of the radar system.

Instruction: Lectures and laboratory experiences are used to present system operation and maintenance and troubleshooting of power control and distribution, air and cooling systems, antenna, timing, trigger and frequency generation, low- and high-power transmitters and receivers, and high-voltage power supplies of a radar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in radar systems maintenance (6/94).

NV-1715-1598

AN/VRC-46 Radio Transmitter Set

Course Number: A-101-0063.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 2 weeks (66-67 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Before 12/90 see NV-1715-0249. Upon completion of the course, the student will have the knowledge and skills necessary to maintain a radio transceiver set and a remote-controlled transceiver systems.

Instruction: Lectures and laboratory exercises cover a radio transceiver system including DC distribution and operation, analysis, and alignment of the receiver, transmitter, and servo systems. Laboratory exercises involve use of the oscilloscope, signal generator, frequency counter, multimeter, RF test set, and deviation meter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in communications systems troubleshooting and maintenance (2/96).

NV-1715-1599

DD-963 Class HF Communications Systems Maintenance

Course Number: A-101-0096.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 13 weeks (496 hours).

Exhibit Dates: 3/91–Present.

Learning Outcomes: Before 3/91 see NV-1715-0870. Upon completion of the course, the student will be able to operate, align, and repair a radio communications system for naval vessels.

Instruction: Lectures and laboratories cover circuit analysis and block diagrams of receivers and transmitters, RF and control sections, frequency distribution, power supplies and antennas, and use of test equipment to troubleshoot and repair the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems maintenance, 3 in communications systems, and 2 in communications systems laboratory (10/92).

NV-1715-1600

AN/URC-94(V) Radio Set Maintenance

Course Number: A-101-0151.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (66-67 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the transceiver.

Instruction: Instruction includes lectures and practical exercises on signal analysis, inputs/outputs, logic elements, circuits and registers, signal/data formats, power supplies, alignment and adjustment procedures, protective devices, transceiver operations, corrective maintenance procedures, and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in communications systems maintenance (10/92).

NV-1715-1601

Flight Deck Communications Maintenance

Course Number: A-101-0210.

Location: Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 6 weeks (200-240 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the individual will be able to maintain, troubleshoot, and repair all aspects of a flight deck communications system.

Instruction: Lectures and laboratory exercises cover physical, functional, and operational descriptions of the system; preventative and corrective maintenance techniques; use of test equipment and diagnostics; and use of technical documentation for a Z-80 microprocessor-based system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in communications systems maintenance (10/92).

NV-1715-1602

Single Audio System Maintenance

Course Number: A-101-0163.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: 2 weeks (66 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain an automated voice switching system.

Instruction: Lectures and laboratory exercises include maintenance, disassembly, and repair of an automated single audio system consisting of telephone sets, transmitter, transfer and communications patching switchboard, control interface and switching units, audio system, remote switching unit, and automated voice switching equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in communications system troubleshooting and maintenance (10/92).

NV-1715-1603

Prospective Electronics Material Officer Pacific

Course Number: A-4B-0018.

Location: Service School Command, San Diego, CA.

Length: Self-paced average, 4 weeks.

Exhibit Dates: 8/91–Present.

Learning Outcomes: The student will gain the necessary knowledge and skills to administer and supervise the electronics maintenance division on board a Pacific fleet ship.

Instruction: Course includes audio-tutorial instruction in electronics materials management, hazardous materials, communications systems, radar systems, navigation aids, electronic warfare, safety, training programs, and test equipment management.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/92).

NV-1715-1604

AN/WTC-3(V) AT&T Dimension 2000 PBX Telephone System, Class C1

Course Number: A-623-0111.

Location: Service School Command, San Diego, CA.

Length: 5 weeks (165 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have the knowledge and skills necessary to maintain the Dimension 2000 PBX telephone systems.

Instruction: Lectures cover operational theory, basic operation, and maintenance theory of Dimension 2000 PBX telephone systems. Hands-on instruction includes preventive and basic corrective maintenance of the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1605

Integrated Voice Communication System (IVCS) AN/STC-1

Course Number: A-623-0042.

Location: Service School Command, San Diego, CA.

Length: 19 weeks (760 hours).

Exhibit Dates: 7/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a bit slice processor-based integrated voice communications system.

Instruction: Topics covered include microcomputer fundamentals, voice communications system operation, troubleshooting and corrective maintenance using basic test equipment, teleprinter and tape recorder operation, and a basic integrated computer rack housing all systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance and 3 in digital systems (10/92).

NV-1715-1606

Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Maintenance

(Dead Reckoning Analyzer Indicator Mk 9/Mod 4)

(Dead Reckoning Tracer Mk 6/Mod 4B (DRAI/DRT) Maintenance, Class C1)

Course Number: J-623-0028.

Location: Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 5 weeks (200-230 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain both dead reckoning analyzer indicator and dead reckoning tracer in ship's interior communications, both ashore and afloat.

Instruction: Lectures and practical exercises cover the operation and repair of the dead reckoning analyzer indicator and the dead reckoning tracer, including review of the 3M system, digital fundamentals, electronics, synchros, control transformers, resolvers, servo loops, and test equipment; operation of specified equipment and components; functional analysis of circuits; block-diagram analysis; and troubleshooting and preventive maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 1 semester hour in electromechanical systems and 2 in electronic troubleshooting (6/94).

NV-1715-1608

Integrated Voice Communication System (IVCS) Terminal Maintenance, Class C1

Course Number: A-623-0106.

Location: Service School Command, San Diego, CA.

Length: 4-5 weeks (126-166 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain an integrated voice communication system, comprising a basic telephone system, intercommunications stations, and various types of telephone terminals.

Instruction: Lectures and laboratory cover review of basic electricity, basic electronics, digital principles, and blueprint reading. Function of various types of IVCS terminals, operation and corrective maintenance using the six steps troubleshooting procedure, and basic electronics test equipment are also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic electronics and 2 in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1609

Radioman, Class C7

Course Number: A-202-0033.

Location: Service School Command, San Diego, CA.

Length: 11-12 weeks (400 hours).

Exhibit Dates: 1/90–5/93.

Learning Outcomes: Upon completion of the course, the student will demonstrate knowledge of the basics of electricity, electronics, antennas, radio wave propagation, radio transmitters and receivers, and satellite communication system operation and will be able to manage specific Navy communications equipment.

Instruction: Lectures and practical exercises cover management by objective, accountability, control, evaluation, and other management tools as they apply to Navy security, organization, and maintenance management systems. The course also covers basic electricity, basic electronics, antennas, radio wave propagation, and operation and maintenance of specific Navy communications systems. Laboratory exercises include use of the oscilloscope, frequency counters, spectrum analyzer, and communications quality monitoring systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in maintenance management, 2 in basic electronics, and 1 in electronic communications systems (10/92).

NV-1715-1610

AN/UGC-143A(V) Navy Standard Teleprinter Maintenance

Course Number: *Version 1:* A-160-0110. *Version 2:* A-160-0110.

Location: *Version 1:* Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA. *Version 2:* Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA; Fleet Training Center, San Diego, CA.

Length: *Version 1:* 3 weeks (112 hours). *Version 2:* 2 weeks (76 hours).

Exhibit Dates: *Version 1:* 3/94–Present. *Version 2:* 3/91–2/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate a teleprinter and perform routine preventive and corrective maintenance to the subsystem level using common laboratory equipment. *Version 2:* Upon completion of the course, the individual will be able to describe the operation of a teleprinter and perform routine preventive and corrective maintenance to the subsystem level.

Instruction: *Version 1:* Lectures and hands-on experience cover the teleprinter. Topics include safety, identification and purpose of subsystems, preventive maintenance procedures, symptom identification and corrective maintenance, and troubleshooting using common laboratory equipment. *Version 2:* Instruction includes lectures and hands-on experience on the teleprinter. Topics include safety, identification and purpose of subsystems, preventive maintenance procedures, symptom identification, and subsystem corrective maintenance.

Credit Recommendation: *Version 1:* In the vocational certificate category, 2 semester hours in electronic systems troubleshooting and repair (11/95). *Version 2:* In the vocational certificate category, 1 semester hour in systems troubleshooting (10/92).

NV-1715-1611

Communications Quality Monitoring System

Course Number: A-202-0036.

Location: Fleet Training Center, Pearl Harbor, HI; Service School Command, San Diego, CA.

Length: 2 weeks (64 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to effectively monitor shipboard communications systems and determine location of system degradation or failure.

Instruction: Course includes lectures and demonstrations on digital, audio, and communications electronics.

Credit Recommendation: In the vocational certificate category, 1 semester hour in systems troubleshooting (10/92).

NV-1715-1612

Communication System Technician

Course Number: A-202-0013.

Location: Service School Command, San Diego, CA.

Length: 11-12 weeks (374-400 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, personnel will be able to operate, troubleshoot, and repair specific types of high-frequency communications equipment at the system level.

Instruction: Lectures and laboratories cover communications systems, including receivers, transmitters, transceivers, and teletype equipment. Testing and fault isolation procedures for HF, digital, and satellite communications circuits and systems are covered. Laboratory exercises cover video terminals, multiplexers, LF/MF/HF receivers, UHF antenna couplers, antenna control, demultiplexers, and satellite communications set operation and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic communications systems and 2 in electrical laboratory (10/92).

NV-1715-1613

1. EA-6B Integrated Electronic Attack System (CAREER) Organizational Maintenance
2. EA-6B Integrated Electronic Countermeasures System Organizational Maintenance
3. EA-6B Integrated Electronic Countermeasures System Consolidated Organizational Maintenance

Course Number: *Version 1:* C-102-9742A. *Version 2:* C-102-9742. *Version 3:* C-102-9742.

Location: *Version 1:* Air Station, Whidbey Island, WA. *Version 2:* Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA. *Version 3:* Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: *Version 1:* 5 weeks (200 hours). *Version 2:* 8 weeks (320 hours). *Version 3:* 9-10 weeks (384 hours).

Exhibit Dates: *Version 1:* 9/95–Present. *Version 2:* 10/93–8/95. *Version 3:* 7/90–9/93.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to describe principles of a 1553 data bus and control an integrated avionics countermeasures system. Students will have the ability to test and troubleshoot down to line replaceable units. Students will also be able to describe fundamentals of data loaders, video displays, warning annunciator panels, and computers. *Version 3:* Upon completion of the course, the student will be able to troubleshoot and repair an integrated electronic countermeasures system.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and practical application involve operation, theory, testing, and troubleshooting pulse-microwave transceivers and 1553-based video and computer processing equipment down to line replaceable units. *Version 3:* Lectures and laboratory experience cover theory, maintenance, troubleshooting, and repair of the above equipment.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in principles of avionics data buses, displays, and computer integration (10/94). *Version 3:* Credit is not recommended because of the limited, specialized nature of the course (10/92).

NV-1715-1614

CM-453/ALQ-99D(V) and CM-484/ALQ-99F(V) Signal Comparator-Converters Intermediate Maintenance

Course Number: C-102-4949.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain the signal-comparator converter using automatic test equipment.

Instruction: Lectures and laboratories in small groups cover use of test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1615

AN/ALQ-99 Jamming Transmitters
Intermediate Maintenance

Course Number: C-102-4952.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–2/97.

Learning Outcomes: Upon completion of the course, the student will understand the theory of high- and low-band jamming transmitters, built-in test equipment, and associated antenna systems and troubleshoot and repair transmitters, high- and low-voltage power supplies, and antennas.

Instruction: Lectures and laboratory experience are used to cover theory, troubleshooting, and repair of high- and low-band jamming transmitters, high- and low-voltage power supplies, built-in test equipment, and associated antenna systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications (10/92).

NV-1715-1616

AN/ASN-123 Digital Display Group (DDG)
Intermediate Maintenance

Course Number: C-102-4396.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–1/97.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a 1553-based computer system and digital display using appropriate test sets under close supervision. Student will also be able to troubleshoot and repair the test sets.

Instruction: Lectures and laboratory instruction on computer theory, construction, and maintenance of the computer equipment as well as theory, construction, and maintenance of associated test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (10/94).

NV-1715-1617

AN/UYH-4 Recorder Reproducer

Course Number: C-102-3994.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under limited supervision, maintenance on a recorder/reproducer set; troubleshoot and repair at the systems level; and mechanically repair the tape transport mechanism.

Instruction: Lectures, demonstrations, and laboratory in a small group-paced setting cover the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in consumer electronics (tape deck repair) and 2 in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1618

AN/ALQ-99 Surveillance Receivers
Intermediate Maintenance

Course Number: *Version 1:* C-102-4953. *Version 2:* C-102-4953.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 5 weeks (200 hours).

Exhibit Dates: *Version 1:* 1/93–Present. *Version 2:* 1/90–12/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to describe system operation, signal analysis, and circuit theory of microwave threat warning receiver. *Version 2:* Upon completion of the course, the student will be able to analyze, troubleshoot, and repair surveillance receivers.

Instruction: *Version 1:* Lectures and written exercises provide the student with a theoretical understanding of microwave receiver principles. There is no laboratory component. *Version 2:* Lectures and and practical application in a laboratory setting includes receiver theory.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic communications (10/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic communications (10/92).

NV-1715-1619

CV-3650/AYA-6C Computer Interface Unit
(CIU) Intermediate Maintenance

Course Number: C-102-3989.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able, under limited supervision, to use functional analysis and appropriate publications to troubleshoot and repair small computer interface circuitry.

Instruction: Lectures and laboratories cover digital test bench. Emphasis is on troubleshooting using digital techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (10/92).

NV-1715-1620

AN/AAS-33A Electronic Control Amplifier
Intermediate Maintenance

Course Number: C-102-3983.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform systems analysis and maintenance, under close supervision, on the electronic control amplifier.

Instruction: Lectures and laboratories in small self-paced groups emphasize troubleshooting skills.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1621

OF-17/ARC-105 Antenna Coupler Group and
AN/ARM-158 Radio Test Set
Intermediate Maintenance

Course Number: C-102-3955.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (64-80 hours).

Exhibit Dates: 1/90–1/95.

Learning Outcomes: Upon completion of the course, the student will be able to maintain a high-frequency radio and its associated test equipment.

Instruction: Lectures and laboratory instruction are used to teach operation of the radio and the test equipment. Limited experience on actual aircraft allows some troubleshooting.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/95).

NV-1715-1622

OJ-510/ALM Digital Test Bench
Intermediate Maintenance

Course Number: C-102-4942.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze and troubleshoot, under limited supervision, a digital test bench.

Instruction: Lectures and practical exercises in small groups cover the test bench.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital principles, 1 in microprocessors, and 1 in computer systems troubleshooting and maintenance (10/92).

NV-1715-1623

ID-2311/A Control Display Indicator (CDI)
Intermediate Maintenance

Course Number: C-102-4746.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a control display indicator.

Instruction: Lectures and practical application in test operations use test equipment and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital principles and 1 in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1624

CV-3649/ALQ-99 Universal Exciter
Intermediate Maintenance

Course Number: C-102-4744A; C-102-4744.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 4-5 weeks (134-160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under close supervision, maintenance on a universal exciter (multiple RF waveform generator).

Instruction: Lectures, demonstrations, workbooks, and written exams are the course methods. Strong emphasis is placed on block analysis, waveform identification, and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance and 1 in communications electronics (12/97).

NV-1715-1625

RT-712/ARC High Frequency Radio Intermediate Maintenance

Course Number: C-102-3104.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student, under supervision, will be able to troubleshoot and repair a radio set.

Instruction: Lectures and laboratory instruction provide students with basic radio theory, specific information on the radio set, and procedures for troubleshooting and aligning.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in radio theory (10/92).

NV-1715-1626

IP-933 Video Display and CV-2434 Analog-Digital Converter Intermediate Maintenance

Course Number: C-102-3999.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–6/92.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under limited supervision, maintenance on cathode ray tubes, video display equipment, and microprocessor controlled A/D and D/A interfaces.

Instruction: Lectures, demonstrations, and workbooks are the methods of instruction. Applications include system analysis and waveform identification.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronics laboratory, 1 in systems analysis (block level), and 1 in digital principles (10/92).

NV-1715-1627

AN/USM-608(V) Inertial Measurement Unit Test Set Operator/Maintainer Intermediate Maintenance

Course Number: C-198-3060.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 7 weeks (280 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, disassemble, troubleshoot to the circuit card level, and reassemble a computer-controlled inertial measurement unit.

Instruction: Small-group lectures with laboratories are methods of instruction.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance and 1 in computer systems troubleshooting and maintenance (12/92).

NV-1715-1628

AT 1161 X 42640 Miltope Magnetic Tape Transport Unit Intermediate Maintenance

Course Number: C-198-3026.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and repair (component level) magnetic tape transport systems.

Instruction: Methods include lectures and laboratories with workbooks. Emphasis is on component-level mechanical and electrical troubleshooting and repair using simulated faults.

Credit Recommendation: In the vocational certificate category, 2 semester hours in consumer electronics (12/92); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (12/92).

NV-1715-1629

ATM13-II Magnetic Tape Transport Unit (MTTU) Intermediate Maintenance

Course Number: C-198-3020.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 2/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to disassemble, troubleshoot (component level), replace defective components, test, and reassemble a magnetic tape transport system.

Instruction: Course methods are lectures and supervised laboratories.

Credit Recommendation: In the vocational certificate category, 1 semester hour in consumer electronics (12/92); in the lower-division baccalaureate/associate degree . category, 1 semester hour in electronic systems troubleshooting and maintenance (12/92).

NV-1715-1630

AN/USM-247(V) Versatile Avionic Shop Test (VAST) On Line Intermediate Maintenance

Course Number: C-198-3014.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 11 weeks (440 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the organization and operation of an integrated circuit-based minicomputer to the individual logic component level; describe the structure and control action of computer software machine code to the bit level; describe the operation of tape drives, disk drives, keyboards, printers, and solid state displays; and be able to test and troubleshoot, to the circuit card level, a computer-based automatic test set.

Instruction: Lectures and practical exercises cover CPU organization, software, timing, operation at the bit level, I/O, interrupt-driven I/O, automatic signal generation and response, and peripheral operation. Laboratories include testing and troubleshooting of the computer and associated peripherals to the card level using multimeters, oscilloscopes, and test programs.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in computer systems troubleshooting and maintenance and 3 in electronic systems troubleshooting and maintenance (12/92); in the upper-division baccalaureate category, 3 in mainframe computer systems (12/92).

NV-1715-1632

AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance

Course Number: C-198-4870.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 5-6 weeks (224 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance, under minimum supervision, on infrared line scanner equipment and test equipment.

Instruction: Lectures and practical exercises cover operational testing and troubleshooting of infrared line scanning equipment used to edit and annotate film, using the appropriate test benches.

Credit Recommendation: In the vocational certificate category, 2 semester hours in consumer electronics (12/92).

NV-1715-1633

OJ-621A/AWM-23(V) (AWG-9) Module Test Station (MTS) Intermediate Maintenance

Course Number: C-121-3013.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 7-8 weeks (288 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze, troubleshoot, and repair digital circuits using standard test equipment such as digital oscilloscope, multimeter, function generator, and frequency counter.

Instruction: Small self-paced groups attend lectures and demonstrations. Laboratories cover troubleshooting to the module level and involve circuit card replacement.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital equipment troubleshooting and maintenance (12/92).

NV-1715-1634

F-14D Avionics Technician Integrated Organizational Maintenance

Course Number: C-102-9899.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 12-13 weeks (512 hours).

Exhibit Dates: 12/92–6/96.

Learning Outcomes: Upon completion of the course, the student will be able to describe the function and identify the major components of modern aircraft avionic systems, including flight computer, VHF/UHF communications, navigation, aircraft flight instruments, and radar, as well as military armament and electronic countermeasure systems troubleshoot using automated test procedures to the major component level.

Instruction: Lectures, laboratories, and field (aircraft) exercises cover safety, flight computer/instruments, voice and data communications, transponder, navigation, radar, armaments, television, infrared, and electronic countermeasures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, and 3 in aircraft avionic systems (12/92).

NV-1715-1635

AN/AWM-23 (AN/AWG-9) Radio Frequency Test Station (RFTS) Intermediate Maintenance

Course Number: C-121-3011.

Location: Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 14 weeks (560 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, calibrate (align), and troubleshoot a missile guidance radar system; calibrate the test station; and troubleshoot, to the module level, test station faults.

Instruction: Lectures cover the automatic test equipment and associated equipment including RF voltmeters, signal generators, spectrum analyzers, counters, oscilloscopes, power supplies, and liquid cooling systems. Laboratories cover operation, maintenance, and repair of the test system and associated subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems and 3 in electronic systems troubleshooting and maintenance (12/92).

NV-1715-1636

1. Submarine Periscope Repair
2. Type 18 Submarine Periscope (Optical) Repair

Course Number: *Version 1:* A-670-0047. *Version 2:* A-670-0047.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 19 weeks (665 hours). *Version 2:* 12 weeks (400 hours).

Exhibit Dates: *Version 1:* 4/95–Present. *Version 2:* 1/90–3/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and maintain a type 18 submarine periscope (optical). *Version 2:* Upon completion of the course, the student will be able to operate and maintain a type 18 submarine periscope (optical).

Instruction: *Version 1:* Lectures, demonstrations, and hands-on laboratory exercises cover structure of matter, conductivity, magnetism, current, color codes, types of resistors, voltage sources, and measuring instruments; Kirchhoff's voltage and current laws, series and parallel circuits, loop and nodal analysis, and Thevenin's and Norton's theorems; AC circuits including phaser concepts and calculations; Faraday's law of inductance and RL circuits and transformers; capacitors, capacitance, RC circuits, RLC circuits, resonance, and Q; and DC and AC motors and generators; basic solid state theory; purpose and operation of oscilloscopes, frequency standards, signal generators, digital multimeters, and counters; power supplies, amplifiers, receivers, and antenna and transmission lines; number systems, truth tables, and digital logic; and the theory, operation, and maintenance of a type 18 periscope, including: optical magnification, optical theory, and image motion compensation photography. *Version 2:* Lectures, demonstrations, and hands-on laboratory exercises cover structure of matter, conductivity, magnetism, current, color codes, types of resistors, voltage sources, and measuring instruments; Kirchhoff's voltage and current laws, series and parallel circuits, loop and nodal analysis, and Thevenin's and Norton's theorems; AC circuits including phaser concepts and calculations; Faraday's law of inductance, RL circuits and transformers; capacitors, capacitance, RC circuits, RLC circuits, resonance, and Q; DC and AC motors and generators; basic solid state theory; purpose and operation of oscilloscopes, frequency standards, signal generators, digital multimeters, and counters; power supplies, amplifiers, receivers, and antenna and transmission lines; number systems, truth tables, and digital logic; and the theory, operation, and maintenance of a type 18 periscope.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in DC/AC circuits, 2 in basic electronics, 3 in basic digital logic, and 3 in electromechanical laboratory (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in DC/AC circuits, 2 in basic electronics, 1 in basic digital logic, and 3 in electromechanical laboratory (1/93).

NV-1715-1637

Outboard Maintenance Common Core

Course Number: A-102-0384.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 15-16 weeks (616 hours).

Exhibit Dates: 5/91–1/93.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform preventive and corrective maintenance on the AN/SLR-16A and the AN/SRD-19A without supervision.

Instruction: Classroom lecture and hands-on laboratory cover operational procedures; functional and circuit diagrams; troubleshooting induced faults located in various parts of the equipment, such as receiver, RF input and RF generation, memory, receiver alignment, and memory; alarm signal recognition; record and track assignment; decode and print circuitry; backlog and frequency measurement; PAN display; and power/logic circuitry and system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in system troubleshooting (1/93).

NV-1715-1638

Outboard 2 Systems Maintenance

Course Number: A-102-0325.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6-7 weeks (248 hours).

Exhibit Dates: 1/90–4/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational, preventive, and corrective maintenance on a countermeasures receiving set and a communications control group, without supervision.

Instruction: Classroom lectures and hands-on laboratory cover operational procedures; functional and circuit diagrams; and troubleshooting induced faults located in various parts of the equipment, such as power and HF circuits, VHF/UHF circuitry, display and data processing interfaces, receiver, processor output multiplexers, and time code generator.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in troubleshooting laboratories (1/93).

NV-1715-1639

AN/SLQ-32A (V)3 Journeyman Maintenance

Course Number: A-230-0023.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (380-400 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify and isolate faults and perform preventive and advanced corrective maintenance on the system.

Instruction: Lectures and laboratory exercises cover security requirements and the functional operation of the countermeasures set; receiver and transmitter hardware; theory and advanced corrective maintenance; use of special tools and test equipment; and alignment, adjustment, and calibration procedures for the countermeasures set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic instruments and measurements (1/93).

NV-1715-1640

Outboard 1 Systems Maintenance

Course Number: A-102-0298.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2-3 weeks (87-104 hours).

Exhibit Dates: 5/91–1/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform, without supervision, operational, preventive, and corrective maintenance.

Instruction: Classroom lectures and hands-on laboratory cover operational procedures with practice troubleshooting induced faults.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in system troubleshooting (1/93).

NV-1715-1641

ADVANCED TECHNOLOGY
(Electronic Warfare Advanced Technology)

Course Number: A-102-0385.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8-9 weeks (266-360 hours).

Exhibit Dates: 1/90–6/92.

Learning Outcomes: Upon completion of the course, the student will be able to apply digital and microprocessor principles.

Instruction: Group-paced lectures hands-on training cover superheterodyne receivers, timing and display circuits, transmission lines, waveguides, antenna characteristics, logic circuits, computer architecture, diagnostic troubleshooting, and test equipment operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital logic and microprocessors, 4 in introduction to electronic communications, and 1 in quality assurance (10/97).

NV-1715-1642

CRYPTOLOGIC TECHNICIAN (TECHNICAL), CLASS A

Course Number: A-231-0073.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (392 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a superheterodyne receiver and direction finding equipment; intercept and log ELINT signals; associate ELINT emissions to weapons systems; measure ELINT signal parameters using the AN/ULQ-16; and perform operational checks on collection equipment.

Instruction: Group-paced lectures/laboratories use the 10H1 training device, oscilloscopes, pulse analyzers, and recording equipment. Topics covered include introduction to electronic warfare, radar parameters and characteristics, 10H1 familiarization, pulse analyzer familiarization, and parameter measurement.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in telecommunication laboratories (1/98).

NV-1715-1643

AN/SLQ-32(V)5 MAINTENANCE

Course Number: *Version 1:* A-102-0382. *Version 2:* A-102-0382.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 3 weeks (105-120 hours). *Version 2:* 6 weeks (200-240 hours).

Exhibit Dates: *Version 1:* 10/96–Present. *Version 2:* 8/92–9/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and repair the equipment to the authorized maintenance levels. *Version 2:* Upon completion of the course, the student will be able to operate, maintain, and repair the equipment to the authorized maintenance levels.

Instruction: *Version 1:* This course includes group-paced lectures and laboratory exercises that cover theory, operation, and maintenance of primary power, equipment cooling systems, controls, indicators, digital switching unit, and exciter. Students will learn troubleshooting procedures and use of specialized equipment and tools (spectrum analyzer, frequency synthesizer). *Version 2:* Lectures and laboratory topics cover theory, operation, and maintenance of primary power; interlocks; equipment cooling system; interfaces; controls; indicators; system diagnostic tests; digital switching unit; and exciter.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting and maintenance (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic troubleshooting laboratory (1/93).

NV-1715-1644

ELECTRONIC WARFARE ADVANCED REFRESHER

Course Number: A-102-0359.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (63 hours).

Exhibit Dates: 1/90–3/93.

Learning Outcomes: Upon completion of the course, the student will be able to define terms associated with atmospheric propagation, solve problems relative to electromagnetic propagation, describe the types of pulsed transmissions, describe the types of electronic counter-countermeasures, analyze foreign capabilities as threats to US Navy sea control, and describe the purpose and application of electronic warfare documentation and publications used in the analysis and assessment of potential hostile force assets.

Instruction: Group-paced lecture course covers electronics countermeasures; search and detention; frequency modulation; jamming techniques; and foreign capabilities as threats to US Navy sea control, operations, and missions.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1715-1645

CRYPTOLOGIC COMBAT SUPPORT SYSTEMS MAINTENANCE

Course Number: A-102-0324.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 3 weeks (100 hours).

Exhibit Dates: 10/90–11/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform preventive and corrective maintenance on the cryptologic combat support system.

Instruction: Group-paced instruction, demonstrations, and hands-on laboratories cover operation, function, interfacing, and use of built-in test equipment for electrical, electronic, and digital equipment. Students are given practice in setup, operation, and troubleshooting down to the lowest replaceable unit.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in system maintenance and troubleshooting (1/93).

NV-1715-1646

VARIABLE CONFIGURATION ANTENNA TEST SYSTEM
(VCATS)

Course Number: A-102-0381.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 1-2 weeks (45 hours).

Exhibit Dates: 5/91–1/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on variable configuration antenna test systems equipment employed at Air Force intelligence command sites.

Instruction: Group-paced lectures and laboratory exercises supported by audiovisual materials are used to prepare the student to perform preventive and corrective maintenance on a variable configuration antenna test set and to troubleshoot the system to the lowest modular unit.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1715-1647

FLAGHOIST OUTSTATION COMMUNICATIONS SUBSYSTEM MAINTENANCE

Course Number: *Version 1:* A-102-0342. *Version 2:* A-102-0342.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 12 weeks (480 hours). *Version 2:* 6-7 weeks (220 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 1/90–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to state the purpose of the Uncrypt Flaghoist Vax equipment and associated DEC peripherals; describe the theory necessary to understand the performance of the system; and operate, maintain, and repair the Flaghoist System Micro Vax II computer, and peripherals. *Version 2:* Upon completion of the course, the student will be able to perform preventive and corrective maintenance on all components/equipment comprising the (AN/FSQ-138) classic Flaghoist system.

Instruction: *Version 1:* This course includes lectures and group-paced performance exercises on digital bus theory, bus devices, and the multiprogramming environment; preventive and basic corrective maintenance of the disk drive and associated equipment; preventive and corrective maintenance of the MXT-1200 printer; and documented fault isolation and repair on the Flaghoist System. *Version 2:* Group-paced lectures, laboratory experiences, and timed fault isolation exercises are used to prepare the student for preventive and corrective maintenance. Topics covered include processor console terminal, printer theory, data communications, fault isolation, and corrective maintenance.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (2/98). *Version 2:* Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1715-1648

1. AN/WLR-1H(V)3/(V)5 Electronic Support Measures (ESM) Combined Maintenance
   (AN/WLR-1H(V)3 and (V)5 Maintenance)
2. AN/WLR-1H(V)3/(V)5 Electronic Surveillance Measures System Combined Maintenance

Course Number: *Version 1:* A-102-0217. *Version 2:* A-102-0217.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 8 weeks (280-320 hours)., *Version 2:* 10 weeks (400 hours).

Exhibit Dates: *Version 1:* 12/96–Present. *Version 2:* 8/91–11/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and repair equipment to the component level as supported by documentation. *Version 2:* Before 8/91 see NV-1715-1250. Upon completion of the course, the student will be able to operate, maintain, and repair the equipment to the highest levels supported by documentation.

Instruction: *Version 1:* This course includes group-paced lectures and laboratory covering theory and preventive and basic maintenance of signal acquisition subsystem, physical and functional interface between modules/circuit card assemblies, recognition and interpretation of malfunctions for RF to IF conversions, special tools and test equipment, systematic fault isolation procedures, antenna alignments and adjustments, and theory and preventive, and basic maintenance of AC/DC power. *Version 2:* Lectures and laboratory exercises cover topics on theory and operation of the system; functional operation of the system to a block diagram level, including sequential operation, indications, frequencies, inputs, and outputs; signal acquisition and data management subsystem; theory and corrective maintenance of AC/DC power distribution; alignment, adjustment, and calibration procedures; and tools and test equipment.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic troubleshooting and maintenance (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic troubleshooting and maintenance laboratory (1/93).

NV-1715-1649

AN/SLQ-17A(V)2 Maintenance

Course Number: A-102-0218.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 11-17 weeks (680 hours).

Exhibit Dates: 1/90–3/93.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on electronic countermeasures sets using electronic test program and various test equipment. The student will be able to maintain the system with minimum supervision.

Instruction: Lectures and laboratory instructions cover system introduction, safety, theory, and maintenance of video data processor, antennas, high-power amplifiers, control and display systems, and test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic communications systems (1/93).

NV-1715-1650

1. Electronic Warfare Technician AN/SLQ-32(V) 4 Maintenance
2. Electronic Warfare Technician AN/SLQ-32(V)4 Maintenance

Course Number: *Version 1:* A-102-0361. *Version 2:* A-102-0361.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 3 weeks (120 hours). *Version 2:* 9 weeks (360 hours).

Exhibit Dates: *Version 1:* 7/97–Present. *Version 2:* 10/92–6/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain and repair electronic warfare equipment. *Version 2:* Upon completion of the course, the student will be able to maintain and repair electronic warfare equipment.

Instruction: *Version 1:* This course includes group-paced lectures and laboratory. Topics cover theory and operation of electronic warfare equipment; maintenance of primary power; theory and maintenance of port buffer, interface processor, and pulse correlator unit; maintenance of display processor system diagnostic; and maintenance of the radio frequency memory unit driver/transmitter and high-voltage circuits. *Version 2:* Lectures and laboratory topics cover theory and operation of equipment; preventive and corrective maintenance of primary power, interlocks, and antenna pedestals; theory and maintenance of the buffer unit, interface processor unit, and pulse correlator unit; maintenance of the digital switching unit and countermeasures generator unit; and maintenance of the radio frequency memory unit, driver/transmitter, and high-voltage circuits.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic troubleshooting (1/93).

NV-1715-1651

Aviation Electronic Warfare Fundamentals and Organizational Level Maintenance

Course Number: A-102-0301.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Before 1/93 see NV-1715-1146. Upon completion of the course, the trainee will be able to describe the normal operation of the UHF/VHF receiver/down converter, AN/ARR-81 receiver, and AN/ALR-44 and RF; audio and video distributions systems without going into circuit theory; and basic radar terms and systems. The use the oscilloscope and spectrum analyzer in providing preventive maintenance as well as good soldering skills is also stressed in this program.

Instruction: Lectures and laboratories with working models of specific equipment studies cover basic radar systems, basic radar terms, quality soldering techniques, ESM receivers, receivers and down converters, and preventive maintenance techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic communications and 3 in quality assurance (1/93).

NV-1715-1652

Electronic Warfare Support Systems and Test Equipment

Course Number: A-102-0369.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 3 weeks (120 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe radar fundamentals and transmission lines, DC and AC motors, and pulse electronic test equipment.

Instruction: Lectures and laboratories cover support systems and test equipment. Topics include basic radar theory and applications; antennas; synchros and servo systems; operation, construction, and troubleshooting of DC and AC motors; and the use of test equipment such as the oscilloscope, pulse/function generator, counter, spectrum analyzer, and digital multimeter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic test equipment laboratory (1/93).

NV-1715-1653

Electronic Warfare Technician AN/SLQ-32A(V)2 Maintenance

Course Number: A-102-0215.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8-11 weeks (440 hours).

Exhibit Dates: 3/90–Present.

Learning Outcomes: Before 3/90 see NV-1402-0075. Upon completion of the course, the student will be able to state the purpose and function of the countermeasure set, describe the theory and functional performance of equipment operation, and maintain and repair equipment without going into detailed logic and circuit analysis.

Instruction: Lectures and laboratories cover theory of operation and preventive maintenance. Topics cover displays, controls, and indicators; preventive maintenance procedures; and basic corrective maintenance of the display control console, digital processing unit, and digital tracking unit.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications maintenance (1/93).

NV-1715-1654

Type 2 & 15 Submarine Periscope Repair
(Submarine Periscope (Optical) Repairman)

Course Number: A-670-0019.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 11 weeks (440 hours).

Exhibit Dates: 7/91–Present.

Learning Outcomes: Before 7/91 see NV-1715-1065. Upon completion of the course, the student be able to describe the periscope system and subsystem, operate the periscope, and maintain the system and related subsystems.

Instruction: Lectures, demonstrations, and hands-on laboratory exercises cover properties and theories of light, basic optical systems, electric circuit theory, basic electronics, and the operation and maintenance of the type 2 and 15 submarine periscopes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in physical optics, 1 in DC/AC circuits, 1 in basic electronics, and 2 in optical/mechanical laboratories (1/93).

NV-1715-1655

AN/SLQ-32A(V)3 Electronic
Countermeasure Maintenance

Course Number: A-102-0216.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Before 1/93 see NV-1715-1145. Upon completion of the course, the student will be able to maintain and repair equipment to the authorized level by explaining the purpose, function, and location of equipment problems and by performing corrective maintenance.

Instruction: Lectures and laboratories on troubleshooting and repairing the digital switching unit, countermeasure generator unit, frequency selection receiver, transponder, radio frequency memory unit, and high voltage circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications maintenance laboratory (1/93).

NV-1715-1656

Electronic Warfare Operations
(Basic Electronic Warfare Operations)

Course Number: *Version 1:* A-102-0209. *Version 2:* A-102-0209.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 14 weeks (490 hours). *Version 2:* 9-15 weeks (315-525 hours).

Exhibit Dates: *Version 1:* 10/97–Present. *Version 2:* 1/90–9/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to intercept and identify electronic emissions and to communicate evaluated information to other station and ships. The student will be able to demonstrate the practical applications required to support electronic warfare operations in a single ship and battle group environment. *Version 2:* Upon completion of the course, the student will be able to intercept and identify electronic emissions, communicate evaluated information to other stations and ships, and demonstrate the practical applications required to support electronic warfare operations in a single ship and battle group environment.

Instruction: *Version 1:* Group-based lectures and laboratory cover security of classified information, electronic warfare operations, electromagnetic energy, radio wave propagation, basic radar principles and antenna characteristics, communications systems, and electronic warfare equipment and operations. *Version 2:* Lectures and discussions cover security of classified information, electronic warfare operations, electromagnetic energy, radio wave propagation, fundamentals of communications, and electronic warfare equipment and operations.

Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (2/98). *Version 2:* Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1715-1657

Fleet Digital

Course Number: A-102-0235.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 11/92–Present.

Learning Outcomes: Before 11/92 see NV-1402-0072. Upon completion of this course, the student will be able to maintain digital and microprocessor-based equipment down to the chip level.

Instruction: Group-paced lectures and laboratory cover gates, flip-flops, counters, timing circuits, encoders/decoders, multiplexers/demultiplexers, tristate gates, registers, number systems, memory, DA/AD converters, and the Intel 8080 microprocessor.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital logic and microprocessors (10/97).

NV-1715-1658

Electronic Warfare Electronic Technology

Course Number: A-102-0214.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7-8 weeks (280-320 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Before 7/92 see NV-1715-1252. Upon successful completion of this course, the student will have acquired the basic knowledge and skills to complete advanced electronic equipment maintenance training.

Instruction: Group-paced lectures and performance-oriented training in a combined classroom/laboratory setting cover basic electricity, DC/AC circuit analysis, linear power supplies, audio amplifiers, solid state devices, the use of the basic test equipment, and preventive and corrective maintenance on a launching.

Credit Recommendation: In the upper-division baccalaureate category, 4 semester hours in AC/DC circuit analysis (1/98).

NV-1715-1659

Cryptologic Technician Maintenance, Class
A

Course Number: A-102-0109.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 20 weeks (700-800 hours).

Exhibit Dates: 12/92–11/94.

Learning Outcomes: Before 12/92 see NV-1715-0829. Upon successful completion of this course, the graduate will be able to maintain digital and microprocessor-based equipment at a basic level.

Instruction: Group-paced lectures and performance-oriented training cover test equipment operation, digital fundamentals, microprocessor-based computer principles, MS-DOS, communications systems, high-reliability soldering, recorder/receiver systems, and preventive maintenance techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital logic and microprocessors, 4 in personal computer repair, and 1 in quality assurance (1/93).

NV-1715-1660

Advanced Non-Morse Operator

Course Number: A-231-0068.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 10 weeks (400 hours).

Exhibit Dates: 2/92–4/94.

Learning Outcomes: Upon successful completion of this course, the student will be able to recognize ideas, phenomena, symbolism, and terminology necessary for non-Morse collection operations. The student will apply the principles, rules, and concepts to the analysis of problems in collection and will be able to describe the theory necessary to understand operational tasks without circuit diagrams.

Instruction: Group-paced lectures/laboratory exercises cover cryptologic operations, signal classification, operational description of a radio receiver, a dynamic signal analyzer, a digital sonograph, a tunable demodulator, a magnetic tape recorder, and a printer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in communications laboratory (2/93).

NV-1715-1661

Advanced Non-Morse Operator

Course Number: A-231-0068.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 10 weeks (333 hours).

Exhibit Dates: 4/91–1/92.

Learning Outcomes: Upon successful completion of this course, the student will be able to recognize ideas, phenomena, symbolism, and terminology necessary for non-Morse collection operations. Student will apply the principles, rules, and concepts necessary to analyze problems in collection and will describe the theory necessary to understand operational tasks without circuit diagrams.

Instruction: Group-paced lectures/laboratory exercises cover cryptologic operations, signal classification, operational description of the a radio receiver and basic operation of a dynamic signal analyzer, a digital sonograph, a tunable demodulator, a magnetic tape recorder, and a printer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in communications laboratory (2/93).

NV-1715-1662

Advanced Non-Morse Operator Preparatory

Course Number: A-231-0067.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (70 hours).

Exhibit Dates: 12/91–1/94.

Learning Outcomes: Upon successful completion of the course, the student will be able to recognize or recall the ideas, phenomena, symbolism, and terminology necessary for the non-Morse collection operators. The student will apply the principles, rules, and concepts necessary to solve problems related to Morse code, modulation, multiplexing, and antenna systems.

Instruction: Group-paced lectures and laboratory exercises cover Morse code, terms associated with automatic data processing, antenna theory and selection, knowledge and application of modulation types, bandwidth measurement, multiplexing, and satellite/nonsatellite communications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic communications laboratory (2/93).

NV-1715-1663

AN/AAM-60(V)2 Electro-Optical Systems
Test Set Intermediate Maintenance

Course Number: *Version 1:* C-102-3572A. *Version 2:* C-102-3572.

Location: *Version 1:* Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA. *Version 2:* Air Maintenance Training Group Detachment, Jacksonville, FL; Air Maintenance Training Group Detachment, Moffett Field, CA.

Length: *Version 1:* 7-10 weeks (280 hours). *Version 2:* 5-6 weeks (216 hours).

Exhibit Dates: *Version 1:* 2/95–Present. *Version 2:* 1/90–1/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use a general purpose test equipment bench to test and troubleshoot electro-optical systems. This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to use a general purpose test equipment bench to test and troubleshoot electro-optical systems.

Instruction: *Version 1:* Lectures and practical exercises cover the test set. This version is pending evaluation. *Version 2:* Lectures and practical exercises cover the test set.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1664

P-3C Integrated Avionics Update III
Integrated Organizational
Maintenance

Course Number: C-102-9595.

Location: Air Maintenance Training Group Detachment, Jacksonville, FL; Air Maintenance Training Group Detachment, Moffett Field, CA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to load, initialize, and use software to troubleshoot and test electronic systems on an aircraft.

Instruction: Lectures and practical exercises emphasize troubleshooting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1665

P-3C Integrated Avionics Systems CP-901(V)/
ASQ-114(V) Integrated
Organizational Maintenance
(P-3C Integrated Avionics Systems CP-
901(V)3 and 4/114(V) Organizational
Maintenance)

Course Number: C-102-4587; C-102-9587.

Location: Air Maintenance Training Group Detachment, Jacksonville, FL; Air Maintenance Training Group Detachment, Moffett Field, CA.

Length: 3-4 weeks (120-136 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, analyze, troubleshoot, and repair a military computer.

Instruction: Lectures and practical exercises cover computer function and structure. Emphasis is on troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (3/93).

NV-1715-1666

P-3, C-130, C-2 Electrical Components
Intermediate Maintenance

Course Number: C-102-3560.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 5/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate oscilloscope test equipment, troubleshoot instrument systems, understand and troubleshoot propeller synchrophaser system, troubleshoot AC generation system, and align and troubleshoot navigation equipment.

Instruction: Lectures and laboratory experiences encompass theory and operation of oscilloscopes, power generation, propeller synchrophasing, aircraft flight instrumentation, and power and aligning. Course also includes troubleshooting navigation equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in solid state electronics and 2 in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1667

P-3B (Modified) Weapon System Technician
Organizational Maintenance

Course Number: C-102-4531.

Location: Air Maintenance Training Group, Moffett Field, CA.

Length: 8 weeks (440 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, students will be able to maintain the various communications and navigation components of a surveillance aircraft, including the communications system (HF, VHF, intercom); the navigation system using Loran, Doppler, and radar altimeter; and search and IFF radars.

Instruction: Lectures and practical exercises cover the specific procedures required to support the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications and 3 in radar systems (3/93).

NV-1715-1668

P-3C Integrated Avionics System Data
Processing Systems 1 and 2 Integrated
Organizational Maintenance
(P-3C Integrated Avionics System Data Pro-
cessing Systems 1 and 2 Organizational
Maintenance)

Course Number: C-102-4596; C-102-9596.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 2-3 weeks (80-88 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, and troubleshoot two military-specific aircraft data processing systems.

Instruction: Course consists of lectures and practical exercises related to the data processing systems. Topics include an interface unit, power system, control panel, multiplexers, and key sets.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (3/93).

NV-1715-1669

AN/AQA-7A(V) 10, 11, 12 Intermediate
Maintenance

Course Number: C-130-3575.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform systems analysis, troubleshooting, and programming of a specific sonar computer-recorder.

Instruction: Lectures and laboratory exercises cover testing and troubleshooting the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (3/93).

NV-1715-1670

AN/ASH-20A Flight Recorder/Locater
System Intermediate Maintenance

Course Number: C-102-3601.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify flight recorder/locater system components and analyze, troubleshoot, and maintain the system.

Instruction: Lectures and laboratories focus on basic block-diagram analysis, checkout, alignment, troubleshooting, and repair of electronic circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1671

P-3C UPDATE 3 MODERNIZED LOGIC UNITS INTEGRATED ORGANIZATIONAL MAINTENANCE

(P-3C Update 3 OL-337(V)1/AY Modernized Logic Units Organizational Maintenance)

Course Number: C-102-4593; C-102-9993.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 2-3 weeks (88 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair a special-purpose military computer.

Instruction: Lectures and practical exercises focus on the specific equipment. Students study the electronic circuits and practice test procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1672

P-3C RD-319/AYA-8, RD-319A/AYA-8 MAGNETIC TAPE TRANSPORTS AND MX-8024/AYA-8 DATA PROCESSING SYSTEM TWO INTEGRATED ORGANIZATIONAL MAINTENANCE

(P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Organizational Maintenance)

Course Number: C-102-4588; C-102-9998.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, remove, and replace components on two specific magnetic tape transports and a data processing system.

Instruction: Lectures and practical exercises relate to the specific equipment. Subjects include timing signals, power supplies, control panels, magnetic tape control logic, and magnetic tape transports.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems troubleshooting and maintenance (3/93).

NV-1715-1673

P-3C INTEGRATED AVIONICS SYSTEM SENSOR STATION ONE AND TWO SYSTEMS INTEGRATED ORGANIZATIONAL MAINTENANCE

(P-3C Integrated Avionics System Sensor Station One and Two Systems Organizational Maintenance)

Course Number: C-102-4582; C-102-9582.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3-4 weeks (128-136 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to align, troubleshoot, and repair a specific electronic sonobuoy sensor system.

Instruction: Lectures and practical exercises focus on understanding the equipment and on troubleshooting procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1674

P-3C SENSOR STATION 1 AND 2 AN/AQA-7(V)10 INTEGRATED ORGANIZATIONAL MAINTENANCE

(P-3C Sensor Station 1 and 2 AN/AQA-7(V)10 Organizational Maintenance)

Course Number: C-130-3576; C-130-9576.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3-5 weeks (144-184 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform system analysis and troubleshooting techniques on various data handling and tracking subsystems used in submarine tracking.

Instruction: Lectures and practical exercises relate to the specific equipment. Instruction includes setup, programming, and testing of subsystems in the laboratory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (3/93).

NV-1715-1675

P-3C UPDATE 3 SENSOR STATIONS 1 AND 2 INTEGRATED ORGANIZATIONAL MAINTENANCE

(P-3C Update 3 Sensor Stations 1 and 2 Organizational Maintenance)

Course Number: C-102-4575; C-102-9575.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 2-4 weeks (112-144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test and repair a system consisting of a passive and active sonar and a transceiver using various general purpose pieces of test equipment.

Instruction: Lectures and practical exercises cover the specific equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1676

P-3C MX-9360/AYA-8B LU-4 INTEGRATED ORGANIZATIONAL MAINTENANCE

Course Number: C-102-9589.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a specific military computer.

Instruction: Lectures and practical exercises focus on understanding and repairing the computer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems troubleshooting and maintenance (3/93).

NV-1715-1677

AN/APX-76A/B AIR/AIR IDENTIFY FRIEND OR FOE (IFF) INTERROGATOR INTERMEDIATE MAINTENANCE

Course Number: C-102-3066.

Location: Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group, Beaufort, SC; Air Maintenance Training Group, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, align, and maintain an IFF radar system using appropriate test equipment and safety procedures.

Instruction: Lectures and laboratory exercises cover a specific IFF system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1678

P-3C NAVIGATION/COMMUNICATION INTEGRATED ORGANIZATIONAL MAINTENANCE

Course Number: C-102-9591.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 9-10 weeks (384 hours).

Exhibit Dates: 11/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot a navigation/communications system. System includes Doppler; inertial; altimeter navigation; and UHF, VHF, and HF communications. Secure communications systems are covered along with various terminal devices.

Instruction: Lectures and practical exercises cover the various devices.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance and 3 in electronic communications (3/93).

NV-1715-1679

P-3C INTEGRATED AVIONICS SYSTEM SENSOR STATION 3 INTEGRATED ORGANIZATIONAL MAINTENANCE

Course Number: C-102-9581.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 5-6 weeks (232 hours).

Exhibit Dates: 11/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain a specific piece of military electronic equipment used in collecting analog data from various monitoring devices.

Instruction: Lectures and practical exercises focus on the equipment. Emphasis is on electronic circuitry and troubleshooting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1680

P-3C Integrated Avionics Systems Navigation/Communication Systems Integrated Organizational Maintenance

Course Number: C-102-9590.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 3-4 weeks (152 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a specific aircraft navigation/communications system. The equipment uses Doppler sensing and VHF communications.

Instruction: Lectures and practical exercises cover the above equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1681

AN/APS-115B Search Radar System Intermediate Maintenance

Course Number: C-100-3571.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 5-6 weeks (168 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain a military radar system.

Instruction: Lectures and practical exercises cover the radar system and the repair of its electronic circuitry.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1682

P-3C Integrated Avionics Systems Display Systems Integrated Organizational Maintenance

Course Number: C-102-9580.

Location: Air Maintenance Training Group, Moffett Field, CA; Air Maintenance Training Group, Jacksonville, FL.

Length: 1-2 weeks (48 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and troubleshoot an aircraft display panel.

Instruction: Lectures and practical exercises cover the specific hardware.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1683

P-3C Integrated Avionics Systems Data Processing Systems 1 and 3 Integrated Organizational Maintenance

Course Number: C-102-9579.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and maintain a special military computer system.

Instruction: Lectures and practical exercises focus on the equipment which includes a digital multiplexer, a sonobuoy receiver, a key set, and a data processor.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems troubleshooting and maintenance (3/92).

NV-1715-1684

Universal Cryptologic Processor Training (UNCRYPT) RSX/VMS FORTRAN

Course Number: A-532-0033.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 16 weeks (480 hours).

Exhibit Dates: 5/91–4/93.

Learning Outcomes: Before 5/91 see NV-1402-0110. Upon completion of the course, the student will be able to develop and maintain software by utilizing Digital Equipment Corporation's VAX/VMS operating system and the FORTRAN-77 programming language.

Instruction: Group-paced lectures and laboratory exercises are used to introduce students to basic computers; number system conversion; memory organization/data representation; arithmetic operations; booting, functions, and controls; text editors; theory of program development; Boolean algebra (algorithms); logic/structure of programming; FORTRAN; and the FORTRAN compiler.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer operating systems/FORTRAN (2/93).

NV-1715-1685

Cryptologic Technician Maintenance Preparatory

Course Number: A-102-0234.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (304 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Before 7/92 see NV-1715-1254. Upon successful completion of this course, the student will have acquired the basic knowledge and skills necessary to complete advanced electronic equipment maintenance training.

Instruction: Group-paced lectures with performance-oriented laboratories cover basic electricity, DC/AC circuit analysis, linear power supplies, audio amplifiers, solid state devices, and the proper use of basic test equipment.

Credit Recommendation: In the upper-division baccalaureate category, 4 semester hours in AC/DC circuit analysis (1/98).

NV-1715-1687

1. Electronic Warfare Applications Advanced
2. Electronic Warfare Applications (Advanced)

Course Number: *Version 1:* A-230-0018. *Version 2:* A-230-0018.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 7 weeks (280 hours). *Version 2:* 8 weeks (265 hours).

Exhibit Dates: *Version 1:* 7/97–Present. *Version 2:* 7/92–6/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to integrate, plan, coordinate, and support weapons systems; prepare correspondence in support of the operation; and administer maintenance and training. *Version 2:* Before 7/92 see NV-1715-1143. Upon completion of the course, the student will be able to integrate, plan, and coordinate equipment with other weapons systems; prepare correspondence in support of the operation; and organize maintenance and training support.

Instruction: *Version 1:* Lectures and discussions cover management and supervision of shipboard operations and doctrines, electronic warfare, training, support measures, communications, and battle group planning. *Version 2:* Lectures and discussions cover management and supervision of shipboard operations and doctrines, electronic warfare training, support measures, communications, and law enforcement operations.

Credit Recommendation: *Version 1:* Credit is not recommended because of the military-specific nature of the course (2/98). *Version 2:* Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1715-1688

Electronic Warfare Technician AN/SLQ-32 Operator

Course Number: A-102-0210.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (199 hours).

Exhibit Dates: 6/90–10/92.

Objectives: Before 6/90 see NV-1715-1144. To operate a specific piece of military equipment.

Learning Outcomes: Upon completion of the course, the student will be able to perform electronic warfare presail and underway watch duties aboard an AN/SLQ-32 equipped ship.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-1715-1689

Aviation Electronic Warfare Intelligence Operator

Course Number: A-233-0022.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (143 hours).

Exhibit Dates: 1/90–10/97.

Learning Outcomes: Upon completion of the course, the trainee will be able to intercept and recognize signals from Soviet early warning, ground control intercept, and air traffic control. The student will be familiar with identification and correlation of US and free world shipboard emitters.

Instruction: Lectures and laboratory presentation use the 10H1 generic trainer to log, record, and analyze signals of interest. Topics covered are Soviet military philosophy; basic radar functions; RF, PRF and PD propagation; and identification of Soviet land-based surface-to-air missile system emitters, Soviet shipboard fire control emitters, and land-based free world emitters.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-1715-1690

P-3C Integrated Avionics Systems Integrated Organizational Maintenance Full Systems Troubleshooting

Course Number: C-102-9991.

Location: Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, Moffett Field, CA.

Length: 1-2 weeks (64 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify, troubleshoot, and isolate faults within aircraft avionics systems.

Instruction: Lectures and laboratory exercises involve the operational testing and troubleshooting of aircraft avionics systems, including electronic preflight checks, operational data loading and retrieval, and full systems operational troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (3/93).

NV-1715-1692

F/A Weapons Control System Organizational Maintenance

Course Number: C-102-3866.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 5 weeks (176 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and maintain weapons and environmental control systems under close supervision.

Instruction: Through lectures and practical exercises, the topic areas covered include an introduction to radar systems and weapons display and delivery systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1715-1693

AN/USM-470(V)2 Avionic Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance

Course Number: C-198-3866.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 9 weeks (344 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to program electronic test equipment using the Vulcan operating system and use software to operate an avionics test set.

Instruction: Lectures and practical exercises cover the software control of automatic electronic test equipment systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1715-1694

AN/ARC-182 Communication Equipment Intermediate Maintenance

Course Number: C-102-4017.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA; Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, Cherry Point, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform, with minimum supervision, intermediate maintenance of communications equipment including troubleshooting to the subassembly level.

Instruction: Lectures and practical exercises cover troubleshooting, alignment, and subassembly-level maintenance of VHF and UHF AM/FM receivers and transmitters and operation of associated test equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours (1 theory, 1 laboratory) in electronic communications equipment maintenance (8/93).

NV-1715-1695

AN/USM-470(V)1 Aircraft Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance

Course Number: C-198-3870.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 10 weeks (292 hours).

Exhibit Dates: 7/89–Present.

Learning Outcomes: Upon completion of the course, the student will be able to program electronic test equipment using the Vulcan operating system and use software to operate an avionics test set.

Instruction: Lectures and practical exercises cover the software control of automated electronic test equipment systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1715-1696

AN/USM-484 Hybrid Test Station Advanced Intermediate Maintenance Activity (IMA)

Course Number: C-198-3876.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 11 weeks (360 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to program electronic test equipment using the Vulcan operating system and use software to operate a hybrid test system.

Instruction: Lectures and practical exercises cover the software control of electronic test equipment systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1715-1697

Integrated Voice Communication System (IVCS) AN/STC-2(V) Aegis, Maintenance, Class C1

Course Number: A-623-0101.

Location: Service School Command, San Diego, CA.

Length: 14 weeks (467-560 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install, operate, and maintain a microprocessor-based integrated voice communications system.

Instruction: Lectures and laboratory exercises cover installation, operation, and corrective maintenance of a 6800 microprocessor-based IVCS. Instruction includes microprocessor fundamentals, programming, interfacing techniques for a 6800 MPU, and troubleshooting and corrective maintenance of the various units in the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in microprocessors and 2 in electronic systems troubleshooting and maintenance (10/92).

NV-1715-1698

AN/USM-470(V)1 Avionics Test Set Technician Intermediate Maintenance

Course Number: C-198-3869.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 16 weeks (480 hours).

Exhibit Dates: 4/91–Present.

Learning Outcomes: Upon completion of the course, student will be able to program automated electronic test equipment using the Atlas programming language, interface test instruments using the IEEE-488 standard bus, and operate and troubleshoot an avionics test set.

Instruction: Lectures and practical exercises cover the operation and troubleshooting of automated electronic test equipment systems, incorporating synthesized function generators, calibrators, counters, multimeters, and related electronic test equipment. Course includes practice in computer control and programming of automatic test systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours (2 theory, 1 laboratory) in automated test equipment (8/93).

NV-1715-1699

AN/USM-484 Hybrid Test System/Operator Maintainer Intermediate Maintenance

Course Number: C-198-3063.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 12 weeks (360 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to program automated electronic test Equipment using the Atlas programming language, interface test instruments using the IEEE-488 standard bus, and operate and troubleshoot a hybrid test system.

Instruction: Lectures and practical exercises cover the operation and troubleshooting of automated test equipment systems, incorporating programmable power supplies, analog-to-digital converters, function generators, digital counters, digital word generators, and related electronic test equipment. Course also includes practice in computer control and programming of automatic test systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours (2 theory, 1 laboratory) in automated test equipment (8/93).

NV-1715-1700

AN/USM-470(V)2 Avionics Test Set
Technician Intermediate Maintenance

Course Number: C-198-3874.

Location: Air Maintenance Training Group, North Island, CA; Air Maintenance Training Group, Lemoore, CA.

Length: 15 weeks (440 hours).

Exhibit Dates: 10/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to program automated electronic test equipment using the Atlas programming language, interface test instruments using the IEEE-488 standard bus, and operate and troubleshoot an avionics test set.

Instruction: Lectures and practical exercises cover the operation and troubleshooting of automated electronic test equipment systems, incorporating oscilloscopes, signal generators, power meters, spectrum analyzers, time domain reflectometers, multimeters, and related electronic test equipment. Course includes practice in computer control and programming of automatic test systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours (3 theory, 1 laboratory) in automated test equipment (8/93).

NV-1715-1701

AN/APM-446 Radar Set Test Station
Operator/Maintainer Intermediate
Maintenance

Course Number: C-198-4868.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 13 weeks (520 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a radar set test station and use it to troubleshoot radar systems to the subassembly level.

Instruction: Lectures, demonstrations, and practice testing radar system components with an automated test station are course methods. Topics include use of spectrum analyzers, power meters, signal generators, waveguide, and coaxial interconnect components, as well as related instruments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours (2 theory, 1 in laboratory) in radar systems (8/93).

NV-1715-1702

AN/ARN-118(V) TACAN System
Intermediate Maintenance

Course Number: C-102-4024.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA; Air Maintenance Training Group, Lemoore, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 4/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and maintain a TACAN navigation system to the subassembly level.

Instruction: Lectures and practice exercises cover the operation and maintenance of the system, including theory of operation, circuit analysis, block diagrams of system components, and troubleshooting and alignment procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic systems troubleshooting and maintenance (8/93).

NV-1715-1703

F/A-18 Data Processing Set Operator
(F/A-18 Communications, Navigation, Identification, and Countermeasures Organizational Maintenance)

Course Number: C-102-3867.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 6 weeks (214 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under close supervision, organizational maintenance on the communications, navigation, identification, carrier landing, electronic countermeasures, and inflight test equipment systems of the F/A-18 aircraft.

Instruction: Lectures, demonstrations, and practical exercises cover the maintenance of communications and navigation systems and subsystems, carrier landing systems, and electronic countermeasures subsystems.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electronic communications theory (8/93).

NV-1715-1704

F/A-18 Integrated Weapons System
Technician Organizational
Maintenance

Course Number: C-102-3868.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 8 weeks (324 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to analyze the software/displays of the master aircraft modes of the F/A-18, under close supervision.

Instruction: Lectures and practical exercises use simulators and actual systems.

Credit Recommendation: In the vocational certificate category, 1 semester hour in laboratory in electronic navigation system maintenance (8/93).

NV-1715-1705

AN/USM-470(V)1 Off-line Maintenance
Training

Course Number: C-198-4866.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 9/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform, under close supervision, off-line maintenance of components of an avionic test set using a specialized hybrid test system.

Instruction: Lectures and practical exercises cover troubleshooting procedures, fault isolation, adjustment, and calibration of automated test equipment.

Credit Recommendation: In the vocational certificate category, 2 semester hours (1 theory, 1 laboratory) in electronic systems troubleshooting and maintenance (8/93).

NV-1715-1706

Stores Management System Integrated
Organizational Level Maintenance
(F/A-18 Stores Management System Organizational Maintenance)

Course Number: C-646-9974; C-646-3866.

Location: Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Lemoore, CA.

Length: 4-5 weeks (160-200 hours).

Exhibit Dates: 1/90–3/91.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, test, and troubleshoot the F/A-18 aircraft stores management and weapon delivery systems, under supervision.

Instruction: Lectures and practical exercises cover stores management, weapon control and gun systems, and scheduled maintenance for the F/A aircraft.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (8/93).

NV-1715-1707

AN/SPG-53F Modified Radar Maintenance

Course Number: A-113-0093.

Location: Service School Command, Great Lakes, IL.

Length: 16-17 weeks (781 hours).

Exhibit Dates: 6/92–6/94.

Learning Outcomes: Before 6/92 see NV-1715-1066. Upon completion of the course, the student will be able to troubleshoot, maintain, and repair a radar and its control system by performing problem analysis at the component and equipment level.

Instruction: Lectures, demonstrations, and laboratory exercises on the function of radar and radar control are used to support problem analysis, fault isolation, and repair. Topics include power supplies, synchronizer circuits, antenna scanners, video circuits, ranging circuits, D/S converter circuits, modulation circuits, and display circuits.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in radar electronic maintenance, 3 in basic electronics laboratory, 3 in control systems, and 3 in radar systems (10/93).

NV-1715-1708

Mk 68 Mod 19 Digital Upgrade (DU) Gun Fire Control System (GFCS) Maintenance

Course Number: A-113-0096.

Location: Service School Command, Great Lakes, IL.

Length: 17-18 weeks (700 hours).

Exhibit Dates: 1/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance including using special tools; perform operational and diagnostic tests and programs; and isolate faults and assess problems at the component, equipment, and system level. Student will follow systematic procedures in disassembly, repair, reassembly, postrepair testing, and safety precautions pertaining to a digital computer-controlled gun fire control system, including mechanical interface, data processing and storage, digital control systems, and local area networks.

Instruction: Lectures, demonstrations, and hands-on equipment training are used to teach system, equipment, and component theory and function at a level that supports the analysis of problems, their isolation, and their repair. Topics include digital computers, control systems, information storage and retrieval, local area networks, hard-wired information processing systems, electronic sensing and indicating, and electronic test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 3 in solid state electronics, 3 in computer systems, and 3 in control systems (10/93).

NV-1715-1709

Shore Communications Maintenance Technician

Course Number: A-101-0227.

Location: Service School Command, Great Lakes, IL.

Length: 10-11 weeks (400-440 hours).

Exhibit Dates: 8/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to diagnose, isolate, and correct malfunctions in a high-frequency microwave communications system at a shore-based communications site.

Instruction: Lectures and practical exercises cover the operation and maintenance of a high-frequency transmitter, a frequency-synthesized high-frequency receiver, a low-speed multiplexer, and a digital microwave communications system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic systems troubleshooting and maintenance (10/97).

NV-1715-1710

DD-963 60/400 Hertz Frequency Converter (Air Cooled) System Maintenance

(DD-963 60/400 Hertz Frequency Converter (Air Cooled) Maintenance)

Course Number: A-652-0241.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, and repair the shipboard 60 to 400 Hertz static frequency changer system.

Instruction: Lectures and practical exercises include operating procedures, electronics review, operating principles, and troubleshooting of the frequency changer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (10/93).

NV-1715-1712

Gunner's Mate, Class A

Course Number: A-041-0010.

Location: Service School Command, Great Lakes, IL.

Length: 24 weeks (944 hours).

Exhibit Dates: 4/92–Present.

Objectives: Before 4/92 see NV-1715-0652. Upon completion of the course, the student will be able to maintain, test, isolate faults, and repair components of the electrical, electronic, and hydraulic systems associated with gun mounts and missile launching systems.

Instruction: For earlier related courses, see NV-1715-0652 and NV-1715-1079. Lectures and practical exercises cover electrical fundamentals, including elements of matter, electron theory, magnetism, AC and DC theory, and circuitry; application of circuits including transformers; control system fundamentals and computers used to solve control problems; hand tool use; explosive characteristics; hydraulics; and synchro-servo system troubleshooting and alignment. Course also includes theory and practice of AC/DC motors and generators, solid state power supplies, number systems, logic gates, digital arithmetic and circuits, and counters and registers.

Credit Recommendation: In the vocational certificate category, 8 semester hours in principles of technology, 2 in hydraulics and pneumatics, and 1 in industrial safety (10/93); in the lower-division baccalaureate/associate degree category, 4 semester hours in basic AC/DC circuits and 3 in solid state electronics (10/93).

NV-1715-1713

Fire Controlman, Class A

Course Number: A-113-0010.

Location: Service School Command, Great Lakes, IL.

Length: 35 weeks (1400 hours).

Exhibit Dates: 10/92–Present.

Learning Outcomes: Before 10/92 see NV-1715-0155. Upon completion of the course, the student will be able to maintain, test, and repair components of electrical and electronic systems associated with gun and missile fire control systems.

Instruction: Lectures and practical exercises cover basic AC/DC circuit theory. Course includes test equipment, transmitters, receivers, motor-generators, gyros, synchros, resolvers, servo system fundamentals, oscilloscope operation, amplifiers, oscillators, and waveforming circuitry without a rigorous mathematical treatment. Course also includes microwave tubes, waveguides, video amplifiers, antennas, radar principles, numbering systems, arithmetic, logic blocks, Boolean expressions, adders, counters, digital computers, I/O systems, converters, programming, analog computer fundamentals, encoders, decoders, core memory, and fire control radar systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits, 3 in AC circuits, 3 in solid state electronics, 1 in digital principles, 1 in control systems laboratory, 1 in radar systems, and 1 in basic electronics laboratory (10/93).

NV-1715-1714

Amphibious Assault Ship Aircraft Inertial Alignment System

(Aircraft Inertial Alignment System)

Course Number: A-670-0054.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot an aircraft guidance system.

Instruction: Lectures and practical exercises cover the description, operation, and maintenance of the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (7/95).

NV-1715-1715

AN/USQ-82(V) Data Multiplex System Maintenance

(Data Multiplex System)

Course Number: A-670-0053.

Location: Service School Command, Great Lakes, IL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and troubleshoot a data multiplex system used for local communications onboard.

Instruction: Lectures and practical exercises cover system description, corrective maintenance, and preventive maintenance of the subsystems which comprise the data multiplex system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic systems troubleshooting and maintenance (7/95).

NV-1715-1716

1. Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47
2. Gas Turbine Electrical Phase II, Class C, DD-963 Strand

Course Number: *Version 1:* A-652-0328. *Version 2:* A-652-0328.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 13 weeks (520 hours). *Version 2:* 10 weeks (400 hours).

Exhibit Dates: *Version 1:* 5/94–Present. *Version 2:* 5/91–4/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain gas turbine main propulsion consoles and auxiliary system consoles. *Version 2:* Upon completion of the course, the student will be able to maintain gas turbine main propulsion consoles and auxiliary system consoles.

Instruction: *Version 1:* Lectures use interactive electronic classroom and practical exercises in digital system fundamentals, signal processing, and gas turbine control console troubleshooting and maintenance. *Version 2:* Lectures and practical exercises cover digital system fundamentals, microprocessors, number systems, signal conditioning, gas turbine engines, and maintenance of the local operating panel.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in digital technology and 3 in control system technology (12/95). *Version 2:* In the vocational certificate category, 1 semester hour in gas turbine system operations (10/93); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital principles and 2 in electronic systems troubleshooting and maintenance (10/93).

NV-1715-1717

1. Gas Turbine Electrical Maintenance (FFG-7)
   (Advanced Training Field Phase 2 Electrical Maintenance (FFG-7))
2. Gas Turbine Electrical Phase II, Class C, FFG-7 Strand

Course Number: *Version 1:* A-652-0327. *Version 2:* A-652-0327.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 15 weeks (600 hours). *Version 2:* 10 weeks (400 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 5/92–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to maintain gas turbine propulsion consoles and auxiliary system consoles. *Version 2:* Upon completion of the course, the student will be able to maintain gas turbine main propulsion console and auxiliary system consoles.

Instruction: *Version 1:* Lectures use interactive electronic classroom, and practical exercises cover digital system fundamentals, signal processing, and gas turbine control console troubleshooting and maintenance. *Version 2:* Lectures and practical exercises cover digital system fundamentals, microprocessors, number systems, basic electronics, propulsion control consoles, gas turbine system theory, and line printers.

Credit Recommendation: *Version 1:* In the vocational certificate category, 2 semester hours in control systems maintenance (12/95); in the lower-division baccalaureate/associate degree category, 3 semester hours in digital technology and 3 in control systems technology (12/95). *Version 2:* In the vocational certificate category, 1 semester hour in gas turbine system operations (10/93); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital principles and 2 in electronic systems troubleshooting and maintenance (10/93).

NV-1715-1718

Gas Turbine Phase II, Class C

Course Number: A-652-0302.

Location: Service School Command, Great Lakes, IL.

Length: 10 weeks (400 hours).

Exhibit Dates: 3/91–3/95.

Learning Outcomes: Upon completion of the course, the student will be able to maintain gas turbine main propulsion consoles and auxiliary system control consoles.

Instruction: Lectures and practical exercises cover basic electricity, basic electronics, test equipment, logic gates, number systems, signal conditioning, and gas turbine operation.

Credit Recommendation: In the vocational certificate category, 1 semester hour in gas turbine operation (10/93); in the lower-division baccalaureate/associate degree category, 2 semester hours in digital principles and 2 in electronic systems troubleshooting and maintenance (10/93).

NV-1715-1719

H-46 Aircraft Communication, Navigation, and Identification Systems Organizational Maintenance

Course Number: C-102-3416.

Location: Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, New River, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 5/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe, troubleshoot, and maintain communications, navigation, and identification systems and external and auxiliary power supplies.

Instruction: This course covers communications, navigation, identification, and power supply systems including maintenance and troubleshooting procedures using analog and digital multimeters and wattmeters. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (7/94).

NV-1715-1720

AN/APN-171B(V) Radar Altimeter High and Low Level Intermediate Maintenance

Course Number: C-102-3036.

Location: Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, North Island, CA; Air Maintenance Training Group, New River, NC; Air Maintenance Training Group, Jacksonville, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe, troubleshoot, and maintain receiver/transmitter systems, receiver circuits, transmitter circuits, power supplies, and receiver/transmitter control circuits.

Instruction: Course covers receiver/transmitter, including power supply; overall block-diagram signal flow; related control circuitry, including gain, bandwidth, memory, and relay; and test, maintenance, and troubleshooting procedures. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/94).

NV-1715-1721

490T-1/1A/9 Antenna Coupler Intermediate Maintenance

Course Number: C-102-3012.

Location: Air Maintenance Training Group, Willow Grove, PA; Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, Cherry Point, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe, troubleshoot, and maintain antennas, antenna couplers, major components, and related systems.

Instruction: Course covers antenna component identification with special emphasis on antenna couplers, phase and loading discriminaters, RF circuits, antenna troubleshooting, and maintenance procedures using basic test equipment. Course theory includes series-parallel, capacitive and inductive reactance, and resonance. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (7/94).

NV-1715-1722

AN/ARC-131 Receiver Transmitter Intermediate Maintenance

Course Number: C-102-3016.

Location: Air Maintenance Training Group, New River, NC; Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, Tustin, CA.

Length: 2-3 weeks (96 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the purpose, function, and theory of operation of two-way radio communications systems, including operational checking, alignment, testing, troubleshooting, repair, and maintenance.

Instruction: Course covers basic receiver/transmitter communications theory, RF carrier modulation; comparison of AM/FM signals; signal discrimination circuits; overall input signal flow in block diagrams; and system troubleshooting, maintenance, and safety procedures. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (7/94).

NV-1715-1723

AN/USM-406A(V) and AN/USH-27 Intermediate Maintenance

Course Number: C-102-3017.

Location: Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, Lemoore, CA; Air Maintenance Training Group, Oceana, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 2/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze, operate, troubleshoot, and maintain the test equipment at the intermediate level.

Instruction: Course covers physical and functional description, operation, and maintenance of the test equipment. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1715-1724

RT-648/ARC-94 RT-698/ARC-102 High Frequency Transmitter Intermediate Maintenance

Course Number: C-102-3026.

Location: Air Maintenance Training Group, Willow Grove, PA; Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, New River, NC.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, repair, troubleshoot, and describe single-sideband transceivers down to the component level.

Instruction: Course covers single-sideband characteristics, power supply system, block-diagram analysis, circuit analysis, operating procedures, performance testing, system alignment, troubleshooting, and component repair. Methodology includes group-paced lecture, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in high-frequency communications (7/94).

NV-1715-1725

AN/ARC-114 Radio Set Intermediate Maintenance

Course Number: C-102-3100.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, repair, adjust, and functionally test the UHF radio set.

Instruction: Course covers UHF radio operation, overall signal flow block diagrams, signal tracing, maintenance, and troubleshooting and repair procedures. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications (7/94).

NV-1715-1726

AN/ARC-159(V) Transceiver and Associated Equipment Intermediate Maintenance

Course Number: *Version 1:* C-102-3116. *Version 2:* C-102-3116.

Location: *Version 1:* Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA; Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA; Air Maintenance Training Group, Tustin, CA; Air Maintenance Training Detachment, Cherry Point, NC; Air Maintenance Training Group, Miramar, San Diego, CA. *Version 2:* Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, El Toro, CA; Air Maintenance Training Group, Cecil Field, FL; Air Maintenance Training Group, Miramar, San Diego, CA; Air Maintenance Training Group, Oceana, Virginia Beach, VA; Air Maintenance Training Group, Whidbey Island, Oak Harbor, WA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 3 weeks (120 hours).

Exhibit Dates: *Version 1:* 10/92–Present. *Version 2:* 1/90–9/92.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to explain the purpose and operation of components and modules of aircraft UHF transceivers. In addition, students will be able to bench test, troubleshoot, repair, and align the receiver and transmitter circuitry, using frequency generators, counters, wattmeters, and modulation performance instruments. *Version 2:* Upon completion of the course, the student will be able to describe system purpose, function, and theory of operation and troubleshoot and maintain receiver/transmitter systems, receiver circuits, transmitter circuits, power supplies, and receiver/transmitter control circuits.

Instruction: *Version 1:* Lectures and practical experience emphasize testing, troubleshooting, repairing, and aligning receivers, transmitters, and radio control heads. *Version 2:* Course covers receiver/transmitter, including power supply; overall block-diagram signal flow; related control circuitry, including gain, bandwidth, memory, and relay; and test, maintenance, and troubleshooting procedures. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in theory and maintenance of aircraft UHF transceivers and 1 in maintenance of aircraft UHF transceivers in laboratory (10/94). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (7/94).

NV-1715-1727

AN/USM-406C Electronic Equipment Test Set Operation and Intermediate Maintenance Training

Course Number: C-102-4026.

Location: Air Maintenance Training Group, Lemoore, CA; Air Maintenance Training Group, Oceana, Virginia Beach, VA.

Length: 5 weeks (156 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain an electronic module test console.

Instruction: This course covers transistor theory, AC and DC power distribution, logic circuits, test equipment, oscilloscopes, and programming and testing various components and modules. Methodology includes group-paced lecture, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronics laboratory (7/94).

NV-1715-1728

AV-8B Aircraft Wire/Connector and Fiber Optics Repair/Assembly Organizational Maintenance

Course Number: C-602-4891.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot, repair, and maintain wire, fiber optic communications materials, and associated woodware.

Instruction: Course covers repair of wire and fiber optic communications materials, including stripping tools; splice crimpers; and procedures to repair shielded cable, compact cable assemblies, and cable stub splice areas; repair verifications; and safety precautions. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour electronic systems troubleshooting and maintenance (7/94).

NV-1715-1729

AN/ALQ-157(V) Infrared Countermeasures Set Intermediate Maintenance

Course Number: C-102-4022.

Location: Air Maintenance Training Group, Cherry Point.

Length: 2 weeks (80 hours).

Exhibit Dates: 6/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform intermediate maintenance and troubleshooting of an infrared countermeasures set.

Instruction: Course covers safety precautions; troubleshooting procedures; theory of operation; and removal, cleaning, and installation. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/94).

NV-1715-1730

AN/ALE-39 Countermeasures Dispensing System Intermediate Maintenance

Course Number: C-102-3107.

Location: Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, Lemoore, CA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform intermediate maintenance on countermeasures dispenser, dispenser housing, and sequence switch.

Instruction: Course covers countermeasure dispenser troubleshooting, maintenance, and safety precautions. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/94).

NV-1715-1731

AN/APR-39(V)1 Radar Signal Detecting Intermediate Maintenance

Course Number: C-102-4019.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the purpose, function, and theory of operation of a radar signal detecting set and test, troubleshoot, repair, and maintain the equipment.

Instruction: Course covers radar receiver function and theory, overall receiver signal block-diagram flows, signal detection and discrimination, logic function identification, video processing function and theory, troubleshooting, repair, and maintenance procedures. Methodology includes group-paced lectures, practical demonstrations, and laboratory work.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1715-1732

AN/ALQ-144(V)1 Countermeasures Set Intermediate Maintenance

Course Number: C-102-4020.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 1-2 weeks (48 hours).

Exhibit Dates: 11/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform intermediate maintenance, troubleshooting, and alignment checks on various countermeasures sets.

Instruction: Course covers safety procedures, troubleshooting procedures, theory of operation, and security of classified material. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/94).

NV-1715-1733

GT-3A Operator and Intermediate Maintenance

Course Number: C-102-4748.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 2 weeks (80 hours).

Exhibit Dates: 8/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform limited maintenance on a personal computer and peripherals under close supervision.

Instruction: Lectures and laboratory exercises cover a personal computer system, including printer, floppy drive, and hard drive.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in computer system troubleshooting and maintenance (10/94).

NV-1715-1734

AN/ASM-459 Mini-SACE Flight System Test Console Intermediate Maintenance

Course Number: C-104-3769.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA.

Length: 4-5 weeks (196 hours).

Exhibit Dates: 2/92–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot and repair a test console and program the test console to sequence through a series of test procedures.

Instruction: Lectures and practical exercises focus on troubleshooting and repairing the test console. Course also includes study and practice of programming procedures for the module.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in programmable controllers and 2 in electronic systems troubleshooting and maintenance (10/94).

NV-1715-1735

A-6/EA-6A Electronic Systems Integrated Organizational Maintenance

Course Number: C-102-9966.

Location: Air Maintenance Training Group Detachment, Whidbey Island, Oak Harbor, WA; Air Maintenance Training Group Detachment, Oceana, Virginia Beach, VA.

Length: 9-10 weeks (376 hours).

Exhibit Dates: 11/92–4/96.

Learning Outcomes: Upon completion of the course, the student will be able to use a digital multimeter, oscilloscope, RF wattmeter, portable ramp testers, and the time domain reflectometer to troubleshoot aircraft communications; audio integration; digital data link; transponder; radar altimeter; carrier instrument landing; Omega/VLF; and TACAN, ADF, and Doppler navigation systems at the line-replaceable unit level.

Instruction: Lectures and practical application addressing methods, theory, and efficiency in troubleshooting aircraft avionic systems at the black-box level. Emphasis is on troubleshooting defective components and replacing/testing systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in theory of avionics ramp testing and systems troubleshooting and 1 in avionics ramp testing and systems troubleshooting laboratory (10/94).

NV-1715-1736

Electronics Technician, Class A

Course Number: A-661-0105.

Location: Nuclear Power Training Command, Orlando, FL.

Length: 28 weeks (765 hours).

Exhibit Dates: 3/94–Present.

Learning Outcomes: Upon successful completion of this course, the student will have a good working knowledge of electricity and electronics, solid state devices, communications systems, digital logic, microprocessors, and radar. The student will be able to interpret schematic diagrams and use appropriate test equipment to isolate and correct faults in both military and civilian electronic equipment.

Instruction: This is a lecture course with the necessary laboratories to support the theory taught in the classroom. This course covers the fundamental concepts of mathematics, basic electricity, electronic fundamentals, communications fundamentals, digital microprocessors, and radar fundamentals. The mathematics component covers arithmetic operations, scientific notation, first-order algebraic equations, metric prefixes, conversions, exponents and polynomials, introduction to trigonometric functions and vector notation, colinear and noncolinear vectors, complex numbers, phaser and rectangular conversions, phaser diagrams, and solution of electrical problems using phasers. Basic concepts of geometry include calculating area, volume, and perimeter. Problem solving in all of the above includes multiple concept problems. The basic electricity component covers electrical quantities; power, series, parallel, and series-parallel circuit analysis; magnetism; inductance, capacitance, and transient circuits; AC fundamentals; reactance, impedance, and analysis of RL, RC, and RLC circuits; AC power, power factor, three-phase circuits, delta, Wye connections, resonance, and transformers; DC and AC motors and generators, series, induction, and synchronous motors, rotating field multiphase motors; basic soldering techniques, troubleshooting and repair of electrical circuits using multimeter, function generator, and oscilloscope; electrical safety practices; and use of basic hand tools. The electronics fundamentals (solid state devices) cover solid state physics; diodes (rectifiers, Zener, tunnel, LEDs, photo, and Shockley); transistors (bipolar, JFETS, MOSFETS, and photo); amplifiers (classes including A, B, and AB), biasing (self and voltage divider), configuration (CE, CB, and CC), and troubleshooting; oscillators and multivibrators (Colpits, Hartley, Clapp, and Wein bridge); operational amplifiers (noninverting, inverting, summing, differential, and active filters); and thyristors (silicon controlled rectifiers (SCRs), DIAC, TRIAC, and unijunction transistors). The digital microprocessor fundamentals include number systems, binary arithmetic, Boolean algebra, logic gates, combinational logic, and flip-flops; counters; Schmitt triggers; logic families; encoders; decoders; multiplexers and demultiplexers; and 8085 microprocessor (instruction set, memories and peripherals, basic hardware concepts, addressing decoding, registers and breakpoints, troubleshooting microprocessor systems, and assembly language programming). The communications fundamentals component covers AM/FM receivers, AM/FM transmitters, antennas and transmission lines, impedance matching, single-sideband, multiplexing and RF circuits, and digital communications. The radar fundamentals include the theory and application of basic radar systems and components covering topics, including waveguides, pulse radar, klystrons, magnetrons, Doppler radar, microwave, and UHF.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics including algebra II, 3 in DC circuits, 3 in AC circuits, 4 in solid state devices and circuits, 3 in electrical troubleshooting and repair, 4 in digital logic and microprocessors, 4 in electronic communications systems, and 4 in radar fundamentals (2/95).

NV-1715-1737

LHD Exterior Communication System Operations

(LHD Exterior Communication Operations)

Course Number: A-202-0044.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 9 weeks (369 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of an integrated communications system with particular emphasis on the receiver/transmitter circuits. In addition, the student should be able to configure the system to various modes of operation and be able to perform both corrective and preventive maintenance.

Instruction: Lectures and practical laboratory exercises are integrated into this course. Included in this course of instruction is detailed instruction on two particular communications sets. Operational modes (SSB, AM, FM, etc.), operational characteristics, bus configuration, antenna theory, and detailed instruction at the block-diagram level along with appropriate troubleshooting techniques are included. Antenna theory with SWR, power management, and test equipment operation conclude the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications (3/95).

NV-1715-1738

Mk 23 Target Acquisition System

Course Number: A-121-0471.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 22 weeks (880 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the student will possess a working knowledge of the target acquisition system and be able to operate and perform maintenance on the system and subsystems. The subsystems are a computer complex, computer peripherals, display subsystem, radar subsystem, and IFF subsystem. To be able to perform these tasks, the student will have to display competence in electricity and electronics, digital electronics, microprocessors, radar, troubleshooting/repair techniques, and continuous wave and antenna theory.

Instruction: This course is composed of both formal lectures and hands-on laboratory experiments. While some operational theory is included, the majority of the instruction is directed toward maintenance and repair. A prerequisite to the course is a solid background in basic electronics and completion of this course will demonstrate competence in both analog and digital electronic basics. Extensive training in microprocessor and computer peripheral maintenance theory is also included in the course with lecture/laboratory session on transmitter/receivers and video processors.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar system operation and maintenance, 3 in electronic/logic troubleshooting, and 1 in computer system operation (3/95).

NV-1715-1739

Tartar CGN-36 Baseline Medium Range Missile Systems Technician
(CGN-36 Medium Range Missile System Technician New Threat Upgrade)

Course Number: A-121-0557.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the student will be equipped to operate and do basic maintenance on a medium-range missile system.

Instruction: Lectures and practical exercises discuss system overview, radar sensors, missile detection and tracking, threat evaluation, power distribution, fire control system, launching systems, system testing, and fault isolation.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/95).

NV-1715-1740

CGN/NTU Medium Range Missile System Technician
(CGN Medium Range Missile System Technician New Threat Upgrade)

Course Number: A-121-0527.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 3/91–2/93.

Learning Outcomes: Upon completion of the course, the student will be equipped to operate and maintain a medium-range missile system.

Instruction: Lectures and practical exercises discuss system overview, radar sensors, missile detection and tracking, threat evaluation, power distribution, fire control system, launching systems, system testing, and fault isolation.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/95).

NV-1715-1741

Joint Tactical Information Distribution System
(Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance)

Course Number: A-101-0259.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 2 weeks (70-80 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be qualified to operate, perform preventive maintenance, and use diagnostic software to isolate faults in a shipboard radio set.

Instruction: Lectures and practical exercises cover equipment operation, preventive maintenance, and fault isolation.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (3/95).

NV-1715-1742

Tartar Medium Range Missile System Officer New Threat Upgrade
(New Threat Upgrade (NTU) Officer)

Course Number: A-2F-4627.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functions of the the Tartar medium-range missile system.

Instruction: Classroom lectures and some minimal laboratory experiences introduce the student to the missile combat system components, including search radars, detection and tracking systems, launch and direction control, and fire control supervision.

Credit Recommendation: Credit is not recommended because the course is a survey course and covers functions of the missile system from a high-level perspective. The nature of the course is entirely military-specific (3/95).

NV-1715-1743

FFG-7 Data Display Group Subsystem
(FFG-7/36/61 Class Ships Data Group Subsystem Maintenance)

Course Number: A-150-0136.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 22 weeks (902 hours).

Exhibit Dates: 6/91–Present.

Learning Outcomes: Upon completion of the course, the student will be equipped to perform preventive and corrective maintenance on radar subsystems, including pulse amplifiers, synchro-digital converters, data switching and distribution, displays, power supplies, motion converters, jam detectors, and target detectors.

Instruction: Lectures and practical exercises relate to the operation and troubleshooting of radar display subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic systems troubleshooting and maintenance (3/95).

NV-1715-1744

DD-963 Data Display Subsystem Maintenance

Course Number: A-150-0137.

Location: Service Schools Command, Mare Island, Vallejo, CA.

Length: 31 weeks (1271 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Upon completion of the course, the student will be qualified to perform preventive and corrective maintenance on the DD-963 data display system. This system is based on discrete logic.

Instruction: Lectures and practical exercises cover radar target simulation, power distribution, synchros, A/D and D/A converters, vaster and vector displays, display multiplexers, thermal printer/plotter, digital switchboard, and basic soldering techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in electronic systems troubleshooting and maintenance (3/95).

NV-1715-1745

Aegis Combat System Maintenance Manager
(CG-65-73/DDG)

Course Number: S-121-0548.

Location: Aegis Training Center, Dahlgren, VA.

Length: 6 weeks (224 hours).

Exhibit Dates: 10/94–Present.

Learning Outcomes: Upon completion of the course, the individual will be able to describe the theory necessary to understand normal operational tasks and to direct operational procedures and maintenance for the Aegis Combat System and other radar and support systems.

Instruction: Instruction is lecture-based with topics relating to the general, physical, functional, and interface relationship of combat weapon systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (5/95).

NV-1715-1746

Aegis Combat System Maintenance Manager
(CG-47-64)

Course Number: S-121-0483.

Location: Aegis Training Center, Dahlgren, VA.

Length: 6 weeks (213 hours).

Exhibit Dates: 10/94–Present.

Learning Outcomes: Upon completion of the course, the individual will be able to describe the theory necessary to understand normal operational tasks and to direct operational procedures and maintenance for the Aegis Combat System and other radar and support systems.

Instruction: Instruction is lecture-based with topics relating to the general, physical, and functional interface relationship of combat weapon systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (5/95).

NV-1715-1747

Aegis Display System Operating and
Maintenance (CG-60-73/DDG)

Course Number: S-150-0273.

Location: Aegis Training Center, Dahlgren, VA.

Length: 26 weeks (1020 hours).

Exhibit Dates: 9/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair to the module or connection level a computer-based video signal processing and display system; use electronic equipment and instruments to isolate faults; and confirm proper system operation.

Instruction: The instructional method in this course is half classroom activity and half laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems operation and repair and 3 in electronic equipment operation and repair (5/95).

NV-1715-1748

Radar System AN/SPY-1B/D Operation and
Maintenance (CG-59-73/DDG)

Course Number: S-104-0210.

Location: Aegis Training Center, Dahlgren, VA.

Length: 24 weeks (861 hours).

Exhibit Dates: 12/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a phased array radar system, including high voltage power supplies, cooling systems, computerized control and signal processing systems, microwave transmitter/receivers, and antenna/waveguide structures; use standard and RF specific test equipment to test, troubleshoot, align, and maintain radar; and understand the function of system components, including power, computer controls, RF signal generation and detection, digital signal processing, and cooling/conditioning equipment.

Instruction: Course consists primarily of classroom lectures with nearly one-half of class time consisting of performance-based practical exercises in the above areas.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital logic and computer interfacing, 4 in radar systems, and 3 in electronic systems troubleshooting and maintenance (5/95).

NV-1715-1749

Aegis FCS/ORTS Operation and Maintenance
(CG-65-73/DDG)

Course Number: S-104-0211.

Location: Aegis Training Center, Dahlgren, VA.

Length: 20 weeks (676 hours).

Exhibit Dates: 8/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, troubleshoot, and repair a computer-based combat control system.

Instruction: Course consists primarily of classroom lecture; one-half of class hours consists of performance-based practical exercises. Topics include digital logic, microprocessors, data processing systems, radar theory and maintenance, power supplies, and power protection circuitry.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital and microprocessor applications, 2 in computer peripherals maintenance, and 4 in electronic/electromechanical systems troubleshooting (5/95).

NV-1715-1750

Aegis FCS/ORTS Operation and Maintenance
(CG-47-64)

Course Number: S-104-0192.

Location: Aegis Training Center, Dahlgren, VA.

Length: 29 weeks (1086 hours).

Exhibit Dates: 1/95–Present.

Learning Outcomes: Before 1/95 see NV-1715-1304. Upon completion of the course, the student will be able to test, troubleshoot, and repair a computer-based combat control system.

Instruction: Course consists primarily of classroom lectures; one-half of class hours consist of performance-based practical exercises. Topics include digital logic, microprocessors, data processing systems, radar theory and maintenance, power supplies, and power protection circuitry.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in digital and microprocessor application, 2 in computer peripherals maintenance, and 4 in electronic/electromechanical systems troubleshooting (5/95).

NV-1715-1751

Aegis Weapon System Mk 7 Operation and
Maintenance (CG-65-73/DDG)

Course Number: S-121-0547.

Location: Aegis Training Center, Dahlgren, VA.

Length: 15 weeks (583 hours).

Exhibit Dates: 4/93–Present.

Learning Outcomes: Upon completion of the course, the student will have an understanding of the basic theory, mission, functional operation, and maintenance procedures of the various subunits of an Aegis phased array radar weapon system. The purpose is to provide senior personal with sufficient knowledge to direct and supervise personnel using this equipment.

Instruction: The course is directed into units covering the various systems in the Aegis weapon system Mk 7. Each unit covers the general physical and function description, operating theory, maintenance description, basic troubleshooting procedures, and the interfacing of each subsystem to each other. The subsystems examined are 400Hz power supplies and distribution equipment, water coolers, dehydrators, computer set, data processing set, built-in test system, computer display consoles, combat display consoles, radar systems, signal processors, transmitter group, antenna group, and weapons and fire control systems of the Aegis Mk 7 phased array radar system. Nearly one-half of class time consists of performance-based exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems maintenance and troubleshooting (5/95).

NV-1715-1752

Aegis Computer AN/UYK-43 Operation and
Maintenance (CG-65-73/DDG)

Course Number: S-150-0274.

Location: Aegis Training Center, Dahlgren, VA.

Length: 20 weeks (670 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform computer system maintenance and troubleshooting, including fault isolation in central processing unit, magnetic data storage unit, and related digital control panels. Troubleshooting and system integrity checks are accomplished through use of diagnostic software.

Instruction: This course includes an initial overview of the computer system, a detailed modular analysis of the subsystems within, and an integration of those subsystems in the total control system. In addition, system operation, detailed module operation, fault isolation, and corrective action are practiced to develop system integrated competence in operation and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems operation and maintenance and 3 in electricity/mechanical systems troubleshooting (5/95).

NV-1715-1753

Advanced Avionics Integrated Weapons
Systems Maintenance, Class C1
(Advanced Avionics Integrated Computer
System Maintenance, Class C7)

Course Number: *Version 1:* C-100-2012 C1. *Version 2:* C-100-2012 C1.

Location: *Version 1:* Air Technical Training Center, Pensacola, FL; Air Technical Training

Center, Memphis, Millington, TN. *Version 2:* Air Technical Training Center, Memphis, Millington, TN.

Length: *Version 1:* 29 weeks (1153 hours). *Version 2:* 29 weeks (1153 hours).

Exhibit Dates: *Version 1:* 2/94–Present. *Version 2:* 1/91–1/94.

Learning Outcomes: *Version 1:* Upon completion of this course, the student will be able to maintain and repair electronic devices and digital devices and will be able to repair and operate radar, ADF, and communications systems. *Version 2:* Upon completion of this course, the student will be able to maintain and repair electronic devices and digital devices and repair and operate radar.

Instruction: *Version 1:* Lectures and laboratories in mathematics; physics; electronic devices and systems; and digital systems, communications and microwave principles, waveform devices, radar principles, avionics principles, and ADF principles and equipment. This course is designed for enlisted personnel who have already had basic training in electricity and electronics. The course provides detailed instruction in electronics/electricity, digital circuits/Boolean algebra, analog communications, and radar theory. *Version 2:* Lectures and laboratories in mathematics, physics, electronic devices and systems, digital systems, communications and microwave principles, waveform devices, radar principle, and avionics principles. This course is designed for enlisted personnel who have already had basic training in electricity and electronics. The course provides detailed instruction in electronics/electricity, digital circuits/Boolean algebra, analog communications, and radar theory.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 6 semester hours in technical mathematics, 6 in semiconductor devices, 6 in electric circuits (AC/DC), 4 in digital circuits/Boolean algebra, 3 in electronic communications, 4 in radar systems, and 3 in systems analysis/troubleshooting (1/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 6 semester hours in technical mathematics, 6 in electric circuits (AC/DC), 4 in digital circuits/Boolean algebra, 3 in communications, 4 in radar systems, and 3 in systems analysis/troubleshooting (11/95).

NV-1715-1754

AN/SPN-43B

Course Number: C-103-2064.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (200 hours).

Exhibit Dates: 8/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance,align, and operate the radar system.

Instruction: This course is taught using formal classroom presentation coupled with laboratory periods. Extensive hands-on experience in the laboratory is an especially integral part of the course with about an 8 to 1 ratio (lab to lecture). Most of the instruction provided is equipment specific.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electric safety and 3 in radar systems (5/96).

NV-1715-1755

Avionics Systems Integration, Class A1

Course Number: C-100-2015.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/92–8/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate, test, and troubleshoot all subsystems of the integrated electronics airborne system. The course is designed to provide graduates with the knowledge and skill training to perform entry-level organizational and intermediate maintenance of avionics systems.

Instruction: The course is composed of periods of formal classroom presentations and associated laboratories. Students in this class are graduates from class A school and already have been trained in basic electricity/electronics. This course is specifically designed to teach an airborne integrated system (composed of communications, navigation, radar, and computer systems).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical safety, 3 in radar systems, 3 in electronic systems troubleshooting and maintenance, and 3 in microprocessor hardware (11/95).

NV-1715-1756

AN/UYX-1(V) Bright Radar Alpha-Numeric Display System (BRANDS)

Course Number: C-103-2043.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 6 weeks (218 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the student will have the knowledge and skills necessary to operate and maintain the equipment to the component level with limited supervision under all conditions.

Instruction: The necessary technical information is provided to enable the adjustment, alignment, and troubleshooting of the system using appropriate tools, test equipment, and technical publications. All applicable safety precautions are observed. Troubleshooting procedures necessary to isolate the fault to the defective component are stressed.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting (5/96).

NV-1715-1757

AN/SPN-46 Maintenance

Course Number: C-103-2046.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 14 weeks (488 hours).

Exhibit Dates: 6/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain an all weather landing system including its components and subsystem.

Instruction: Lectures and practical exercises cover radar systems, power distribution, subsystems, data stabilization subsystems, control and monitors, input and output buffers, and data link monitors. Course also includes analysis, isolation, and repair procedures. Alignment of consoles, encoders, radar, computer maintenance procedures, power supplies, control logic circuits, program translation, and computer diagnostic tests are all covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer systems troubleshooting and maintenance, 4 in radar systems, and 1 in electrical safety (11/95).

NV-1715-1758

AN/FAC-6(V) Fiber Optics Intersite Maintenance, Class C1

Course Number: C-103-2062.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 4 weeks (176 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot the fiber-optic intersite system, operate the fiber-optic intersite system and, maintain the fiber-optic intersite system.

Instruction: Course includes lectures and laboratories in systems operation, maintenance, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic system maintenance and troubleshooting (11/95).

NV-1715-1759

Flight Data Input/Output, Class C1

Course Number: C-103-2065.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 2 weeks (80 hours).

Exhibit Dates: 12/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair the flight data input/output system including its various subsystems.

Instruction: Instruction in this course is composed of formal classroom presentations coupled with laboratories designed to emphasize the lecture material. All training provided is specific to flight data input/output with practically no general knowledge in technical areas included. This course is designed to provide board-level knowledge.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical safety and 2 in electronic troubleshooting and maintenance (11/95).

NV-1715-1760

AN/SPN-43C Maintenance

Course Number: C-103-2113.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 7 weeks (217 hours).

Exhibit Dates: 1/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and operate the radar system.

Instruction: Course includes equipment-specific lectures and laboratories in systems operation, maintenance, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electrical system safety and 3 in electronics system maintenance (11/95).

NV-1715-1761

AN/FSC-104(V) Standard Emergency
Communications System, Class G1

Course Number: C-103-2118.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 8 weeks (320 hours).

Exhibit Dates: 6/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform operational checks, alignments, and preventive/corrective maintenance on a standard emergency communications system.

Instruction: Instruction is provided using both classroom presentations and laboratory experiments. Experiment time far exceeds lecture time.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic troubleshooting/maintenance (11/95).

NV-1715-1762

Marine Air Traffic Control and Landing
Systems (MATCALS) Radio
Maintenance
(Marine Air Traffic Control and Landing
Systems (MATCALS) Radio Maintenance, Class M3)

Course Number: C-103-2091-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 7-8 weeks (312 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install and perform preventive and corrective maintenance on the marine air traffic control communications system at the organizational and intermediate level maintenance.

Instruction: Group-paced instruction and laboratory exercises cover performing operability checks, troubleshooting faulty component, measuring system parameters, and aligning and adjusting the radio set. Preventive maintenance and radio set are taught using applicable technical publications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications systems maintenance, 2 in electronic troubleshooting and maintenance, and 1 electrical safety (8/96).

NV-1715-1763

AN/TPS-73 Radar Maintenance, Class M3
(AN/TPS-73 Maintenance)
(AN/TPS-73 Radar Maintenance)

Course Number: C-103-2084-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 10-11 weeks (416 hours).

Exhibit Dates: 8/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to troubleshoot TPS 73 analog circuits to the faulty component; perform operability checks on the radar set; measure and compare system parameters; set up/align the radar; and perform preventive maintenance on the radar system.

Instruction: Course is taught using both formal classroom presentations and associated laboratories.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electric safety, 3 in radar systems, 2 in digital circuits, and 2 in electronic troubleshooting/maintenance (8/96).

NV-1715-1764

AN/UYQ-34 Processor Maintenance, Class
M3
(AN/UYQ-34 Maintenance)
(AN/UYQ-34(V) Processor Maintenance)

Course Number: C-103-2083-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 2 weeks (80 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the radar set at the organizational and intermediate levels.

Instruction: Group-paced lectures and laboratory instruction include operational checks, measurement of system parameters, alignment and adjustment, preventive maintenance, and troubleshooting and repair of the system using applicable test equipment and technical manuals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in radar systems (8/96).

NV-1715-1765

AN/TRN-44 Radar Maintenance, Class M3
(AN/TRN-44 Maintenance)

Course Number: C-103-2101-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 10 weeks (400 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install and perform preventive and corrective maintenance on a Marine air traffic control navigation system.

Instruction: Lectures and extensive laboratories enable the student to install and maintain Marine air traffic control navigation aid systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic system maintenance (8/96).

NV-1715-1766

AN/TSQ-120 Maintenance
(AN/TSQ-120 Maintenance, Class M3)

Course Number: C-103-2092-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 4 weeks (160 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install a Marine air traffic control communications system and perform preventive and corrective maintenance on Marine air traffic control communications systems.

Instruction: Lectures and extensive laboratories cover communications systems installation practices and preventive and corrective maintenance applications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems maintenance (8/96).

NV-1715-1767

AN/TSQ-131 Maintenance
(AN/TSQ-131 Maintenance, Class M3)

Course Number: C-103-2093-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 4 weeks (160 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install Marine air traffic control communications systems and perform preventive and corrective maintenance on Marine air traffic control communications systems.

Instruction: Lectures and extensive laboratories cover communications systems installation practices and preventive and corrective maintenance applications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems maintenance (8/96).

NV-1715-1768

AN/TPN-30 Radar Maintenance, Class M3
(AN/TPN-30 Maintenance)

Course Number: C-103-2102-M3.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5-6 weeks (232-312 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance tasks on a Marine instrument landing system.

Instruction: Lectures and extensive laboratories cover operational theory, preventive and corrective maintenance procedures, and troubleshooting applications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours electronic systems troubleshooting (8/96).

NV-1715-1769

AN/TRN-33 Maintenance

Course Number: C-103-2103.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 3 weeks (120 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to install and perform preventive and corrective maintenance on Marine air traffic control navigation aids systems.

Instruction: Lectures and extensive laboratories cover operational theory and preventive and corrective maintenance on air traffic control navigation aids.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting (11/95).

NV-1715-1770

AN/UPS-1G Radar Maintenance
(AN/UPS-1G Radar Maintenance, Class C1)

Course Number: C-103-2082-M3.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (200 hours).

Exhibit Dates: 7/90–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform both preventive and corrective maintenance on the radar set.

Instruction: Instruction is provided in this course using both formal lecture and laboratory experiments. The majority of the time is spent in laboratory experiments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radar systems (10/95).

NV-1715-1772

Marine Air Traffic Control Radar Technician

Course Number: C-103-2080.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 23-25 weeks (840-860 hours).

Exhibit Dates: 7/90–Present.

Learning Outcomes: This is a pipeline course. Upon completion of all courses in the pipeline, this course number is assigned.

Instruction: See C-103-2081 (NV-1714-0074), C-103-2083 (NV-1715-1763), and C-103-2084 (NV-1715-1764). This is a pipeline course.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (11/95).

NV-1715-1773

Marine Air Traffic Control Communications Technician

Course Number: C-103-2090.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 16 weeks (630-640 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: This is a pipeline course. Upon completion of all courses in the pipeline, this course number is assigned.

Instruction: This is a composite course. See C-103-2091 (NV-1715-1762), C-103-2092 (NV-1715-1766), and C-103-2093 (NV-1715-1767).

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (11/95).

NV-1715-1774

Marine Air Traffic Control Navigational Aids Technician

Course Number: C-103-2100.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 16-17 weeks (630-640 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: This is a pipeline course. Upon completion of all courses in the pipeline, this course number is assigned.

Instruction: This is a composite course. See C-103-2101 (NV-1715-1768) and C-103-2102 (NV-1715-1765).

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (11/95).

NV-1715-1775

AN/SYQ-7(V)3 Naval Modular Automated Communications Systems (NAVMACS V3)

Course Number: A-101-0214.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 18 weeks (90 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Before 5/92 see NV-1715-0875. Upon completion of the course, the student will be able to operate and maintain a modular automated communications system under surface shipboard conditions.

Instruction: Course includes lectures and performances exercises covering the operation, maintenance, and troubleshooting of computer peripherals, including line printers, data terminals, memory interfaces, and registers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in computer system troubleshooting (11/95).

NV-1715-1776

AN/WSC-3 UHF Defense Assigned Multiple Access (DAMA) Communication Set Maintenance

Course Number: A-101-0138.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 12 weeks (480 hours).

Exhibit Dates: 6/94–Present.

Learning Outcomes: Before 6/94 see NV-1715-0876. Upon completion of the course, the student will be able to describe the operational characteristics and capabilities of the communications set, including antenna groups, perform preventive and corrective maintenance, and become familiar with shipboard UHF communications systems in general.

Instruction: Lectures and hands-on experiences cover the operation, troubleshooting, and corrective maintenance of communications systems including antenna groups and subsystems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electronic systems troubleshooting and repair (11/95).

NV-1715-1777

Submarine Satellite Information Exchange Subsystem 2 (SSIXS 2) Maintenance

Course Number: A-101-0262.

Location: Fleet Training Center, Norfolk, VA.

Length: 10 weeks (400 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Upon completion of the course, the student will be trained to maintain and repair the AM/FSQ-163/164 subsystems under all shore station readiness conditions using technical manuals and associated test equipment without supervision.

Instruction: Lectures and practical experiences in the maintenance, troubleshooting, and repair of data systems and subsystems using technical manuals, operating instructions, maintenance instructions, and parts lists.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems maintenance and repair (11/95).

NV-1715-1778

Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator

Course Number: A-260-0031.

Location: Fleet Training Center, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Before 2/93 see NV-1715-1138. Upon completion of the course, the student will be able to operate and maintain a submarine satellite communications system including peripheral equipment and failure handling procedures.

Instruction: Lectures and practical experience cover the hardware configuration and software functions on both satellite and LF/VLF broadcast systems including setup and initialization procedures, system shutdown, and recovery procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in broadcast communications equipment maintenance and operation (11/95).

NV-1715-1779

Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management

Course Number: A-260-0047.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 5/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify and define data base formats used in the naval modular automated communications systems, use them in data base operations, and perform the steps necessary to construct a data base.

Instruction: Group-paced instruction includes lectures, hands-on experience, and homework assignments including the use of viewgraphs.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in data base management (11/95).

NV-1715-1780

1. SQQ-89(V) On-Board Trainer Operator and Administration
2. AW/SQQ 89(V)-T Onboard Trainer Operator and Administration

Course Number: *Version 1:* K-130-1117. *Version 2:* K-130-1117.

Location: *Version 1:* Fleet Antisubmarine Warfare Training Center, San Diego, CA. *Version 2:* Fleet Training Center, Norfolk, VA;

Fleet Antisubmarine Warfare Training Center, Pacific, San Diego, CA.

Length: *Version 1:* 2 weeks (49-80 hours). *Version 2:* 4 weeks (72 hours).

Exhibit Dates: *Version 1:* 8/97–Present. *Version 2:* 4/92–7/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to set up and describe the purpose of onboard trainer; implement a training program involving explanation of abbreviations, terms, and symbols used with the onboard trainer; identify the need for training; develop exercises and scenarios; brief and debrief; monitor performance; maintain training records; and document results. *Version 2:* Upon completion of the course, the student will be able to equip the onboard trainer; identify and define the purpose of the onboard trainer for individual training operations; describe and identify the functions of each component of the trainer; describe the abbreviations, terms, and symbols used with the onboard trainer; describe the operational characteristics of the trainer and the documentation system used; and identify the need for training, implement the training, and document the results of training.

Instruction: *Version 1:* Instructional methods include lectures, discussions, visual aids, and hands-on training. Topics covered are general documentation procedures, record keeping, and functional and interfacing procedures. *Version 2:* The instructor uses a combination of lectures, discussions, visual aids, and hands-on training. The topics covered are general documentation procedures, physical descriptions, functional and interfacing procedures, operational descriptions, and basic operational procedures.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in records and information management (10/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (11/95).

NV-1715-1781

AN/SYQ-7(V)5 Naval Modular Automated Communications Systems (NAVMACS V5) Maintenance

Course Number: A-101-0236.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain a modular automated communications system to the card/modular level.

Instruction: Lectures and practical experiences cover the operation and maintenance of a modular automated communications system, including the central processing unit, line printer, magnetic tape subsystem, perforated tape reader, and data terminal set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer system operation and maintenance (11/95).

NV-1715-1782

General Purpose Electronic Test Equipment (GPETE) Field Calibration Activity Operator

Course Number: A-198-0056.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, calibrate, and perform minor repairs on basic test equipment, including meters, signal generators, oscilloscopes, and frequency counters.

Instruction: Lectures, demonstrations, and laboratory experiences cover the use, calibration, and minor repair of test equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in test equipment use, calibration, and minor repair (11/95).

NV-1715-1783

General Purpose Electronic Test Equipment (GPETE) Fleet Electronic Calibration Laboratory Maintenance

Course Number: A-198-0057.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 12 weeks (480 hours).

Exhibit Dates: 4/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, calibrate, and repair meters, oscilloscopes, frequency counters, spectrum analyzers, power meters, and signal generators.

Instruction: Lectures, demonstrations, and laboratory exercises cover fault insertion, troubleshooting, and repair.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic test equipment operation, calibration, and repair (11/95).

NV-1715-1784

Combat Systems Electronics Administration Atlantic Fleet

Course Number: A-4B-0019.

Location: Fleet Training Center, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe combat systems electronic equipment; perform the administrative procedures followed in the combat systems electronics division; and perform other necessary administrative procedures related to maintenance, repair, training, reports, and inspections.

Instruction: Instruction is delivered in a lecture format. Topics include an introduction to combat systems electronic equipment and the application of administrative procedures used in a combat systems electronics division.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (11/95).

NV-1715-1785

AN/SPS-67(V)3 Radar Maintenance

Course Number: A-104-0215.

Location: Fleet Training Center, Norfolk, VA.

Length: 7 weeks (280 hours).

Exhibit Dates: 5/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain and operate the radar set under all shipboard readiness conditions using the associated test equipment.

Instruction: Methodology includes group-paced lectures with emphasis on hands-on performance-oriented training in a combined classroom/laboratory setting. Topics covered include familiarization with the radar set, its basic operation, and corrective and preventive maintenance (serial data communication, power distribution, and radar transmitting and receiving).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (11/95).

NV-1715-1786

LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician

Course Number: K-652-2204.

Location: Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA.

Length: 5 weeks (199 hours).

Exhibit Dates: 4/94–Present.

Learning Outcomes: Before 4/94 see NV-1715-1287. Upon completion of the course, the student will be able to perform electrical/electronic maintenance, troubleshooting, and repair to the component level.

Instruction: Lectures and laboratory exercises ensure student comprehension of system operation, troubleshooting, corrective repair, and maintenance of the RAST and HRS electrical/electronic systems. A review of solid state circuits is also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in motor control devices and 3 in electrical/electronic troubleshooting (11/95).

NV-1715-1787

Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4D

Course Number: J-623-0069.

Location: Fleet Training Center, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Before 10/93 see NV-1715-1139. Upon completion of the course, the student will be able to operate and maintain a dead reckoning analyzer and tracer.

Instruction: Lectures and practical exercises cover the fundamentals of electronics. Topics covered include AC/DC circuits; electronic devices; digital logic devices; the fundamentals of control transformers; synchros; resolvers; and the operational procedures, calibration, and circuit checks of both the Mk 10 and Mk 6 equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic devices (11/95).

NV-1715-1788

Combat Systems Technical Core Electronics Technician/Fire Control Technician

Course Number: A-100-0139.

Location: Service School Command, Great Lakes, IL.

Length: 24 weeks (960 hours).

Exhibit Dates: 3/95–9/97.

Learning Outcomes: Upon completion of the course, the student will apply knowledge and skills in basic electricity and electronics theory along with technical manuals to operate, test, and troubleshoot electronic equipment to the component level.

Instruction: Group-paced lectures and laboratory activities cover the electronics technical core. Instruction includes topics on characteristics of matter, energy, and direct current circuits; basic AC theory and circuits; electromagnetism; inductance, capacitance, impedance, and transformers; circuit protective devices; theory and use of meters and electrical measuring instruments; wiring diagrams, conductors, insulators, and soldering; AC and DC generators; vacuum tubes and vacuum tube power supplies; solid state devices and solid state power supplies; amplifiers and classes of amplifiers; communications fundamentals, transmission lines and antennas; microwave oscillators and amplifiers; concepts of number systems, Boolean algebra, logic circuits, and digital computers; basic test equipment and application; and fundamentals of fiber optics. The course is designed to provide the knowledge and skills needed to prepare for entry level performance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits, 3 in AC circuits, 4 in solid state devices, 4 in transistor amplifiers, 4 in communications systems, 4 in digital computer fundamentals, and 2 in basic electronic troubleshooting (12/95).

NV-1715-1789

Gun Fire Control System Mk 86 System Maintenance

Course Number: A-113-0151.

Location: Service School Command, Great Lakes, IL.

Length: 33 weeks (1320 hours).

Exhibit Dates: 10/94–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair the gun fire control system with appropriate technical documentation; describe the theory of operation of the electrical, electronic, communications, and computing sections of the system; and perform basic preventive maintenance on the power system, central processing unit, unit instruction sequence, core memory, and input/output controller.

Instruction: Group-paced lectures and laboratory exercises cover the gun fire control system and support subsystems. Support subsystems include radar, A/D-D/A converters, multiplexers, computers, TV monitors, and power distribution systems. Students are required to use a schematic, oscilloscope, and DVM to identify and isolate faults programmed into the system. Students are also required to use software diagnostic routines in fault isolation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in computer maintenance and repair and 4 in electronic systems maintenance (12/95).

NV-1715-1790

AN/WSN-2 Stabilizer Gyrocompass Maintenance

Course Number: A-670-0048.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (120 hours).

Exhibit Dates: 4/95–Present.

Learning Outcomes: Before 3/95 see NV-1715-1067. Upon completion of the course, the student will be able to operate, maintain, and repair the stabilizer gyrocompass.

Instruction: Lectures and laboratory exercises cover operation, alignment, troubleshooting, and maintenance of the gyrocompass system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in gyrocompass principles and maintenance (12/95).

NV-1715-1791

AN/WSN-5 Inertial Navigation System Maintenance

Course Number: A-670-0049.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Before 10/93 see NV-1715-1119. Upon completion of the course, the student will be able to operate, maintain, and troubleshoot an inertial navigation system.

Instruction: Lectures and practical exercises cover the operation, maintenance, and troubleshooting of an inertial navigation system to the circuit card level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in microprocessor-based navigation systems (12/95).

NV-1715-1792

Advanced Digital

Course Number: A-100-0142.

Location: Service School Command, Great Lakes, IL.

Length: 7 weeks (280 hours).

Exhibit Dates: 2/96–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to make flow charts and write programs in assembly language (hand assembled) using the instruction set of the COM-TRAN trainer which is similar to the Intel 8086. The student will know how the buss structure, ALU, and instruction and condition code registers interface in the microprocessor architecture. Using fault analysis cards, the student will create, identify, and correct software and/or hardware faults down to the chip level.

Instruction: Group-paced lectures and laboratory exercises use the COM-TRAN 10 digital trainer. The student will write and run programs using the CT-10 instruction set. The student will construct flow charts to aid in diagnostic maintenance and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in microprocessors I (12/95).

NV-1715-1793

Engineering Electrical Core

Course Number: A-651-0119.

Location: Service School Command, Great Lakes, IL.

Length: 12 weeks (456 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will apply the basic concepts of DC and AC theory to electronic and electromechanical devices and systems, power distribution systems, and internal communications systems.

Instruction: Lectures, practical exercises, and laboratory experiments cover AC and DC circuits, analog and digital electronics, motors and generators, shipboard power distribution systems, internal communications systems, and basic electrical maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics, 2 in DC circuits, 2 in AC circuits, 3 in electronics technology, and 3 in electromechanical technology (12/95).

NV-1715-1794

Electronics Technician, Class A

Course Number: A-100-0085.

Location: Service School Command, Great Lakes, IL.

Length: 47 weeks (1880 hours).

Exhibit Dates: 4/94–3/96.

Learning Outcomes: Upon completion of the course, the student will be able to apply knowledge of DC and AC electricity, solid state devices, digital logic, microprocessors, and communications systems. Using appropriate test equipment and schematic diagrams, the student will be able to troubleshoot and repair equipment to the component level.

Instruction: Lectures and laboratory topics cover mathematics, electronic fundamentals, communications systems, digital logic, and microprocessors. The mathematics topics include arithmetic operations, scientific notation, algebraic equations, prefixes, conversions, trigonometric functions, and phaser diagrams. DC and AC topics include the analysis of series, parallel, and series-parallel circuits; inductance; capacitance; transient circuits; AC fundamentals; reactance; and analysis of RC, RL, and RLC circuits. The solid state component includes solid state physics, diodes, transistors, amplifiers, and power supplies. Communications systems cover basic communications principles, AM transmitter and receiver circuits, single-sideband fundamentals, waveforms and frequency spectra, and the operation and use of the spectrum analyzer. Digital microprocessor fundamentals include number systems, binary arithmetic, Boolean algebra, logic gates, combinational logic, microprocessor instruction set, memories, and peripherals. Instruction is provided on the troubleshooting and repairing of electronic systems and equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in DC circuits, 3 in AC circuits, 7 in solid state electronics, 8 in electronic communications, 3 in digital microprocessor fundamentals, 4 in radio/radar fundamentals, and 3 in electronic systems troubleshooting (12/95).

NV-1715-1795

Fire Controlman, Class A, School Strand

Course Number: A-100-0141.

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Location: Service School Command, Great Lakes, IL.

Length: 11 weeks (438 hours).

Exhibit Dates: 5/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe radio wave theory and identify its basic components; describe basic antenna theory and the radiation characteristics of common types of antennas; state the purpose of search, navigation, and fire control radar; describe the general characteristics and types of transmission lines; perform maintenance procedures associated with radar; describe in detail the theory and operation of synchros; describe the use of basic test equipment associated with electromechanical systems; perform basic adjustment, alignment, and calibration procedures on electromechanical systems and devices; and diagnose motor and generator faults.

Instruction: Group-paced lectures and laboratory exercises cover electromechanical systems, servos, antenna systems, radar, motors, and generators.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in motor control laboratory, 3 in electromechanical systems, and 3 in servo control (12/95).

NV-1715-1796

Electronics Technician Strand, Class A

Course Number: A-100-0140.

Location: Service School Command, Great Lakes, IL.

Length: 23 weeks (920 hours).

Exhibit Dates: 5/95–7/97.

Learning Outcomes: Upon completion of the course, the student will be able to identify and describe the components of a single-sideband radio, UHF transceiver, and radar system; discuss the characteristics and major subsections in SSB radio, UHF radio, and radar; discuss the characteristics that affect radio/radar performance; identify the types and functions of various transmission lines; interpret schematic diagrams; and use the appropriate test equipment to perform preventive maintenance and repair on radio and radar systems.

Instruction: Group-paced lectures and laboratory exercises cover the various AM/FM radios, UHF transceivers, and radar systems for which the student may be responsible in the fleet.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in basic communications fundamentals, 4 in radio/radar fundamentals, and 6 in electronic communications laboratory (12/95).

NV-1715-1797

Trident Common Navigation Technician
Conversion

Course Number: A-193-0375.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 13-14 weeks (578-579 hours).

Exhibit Dates: 9/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and operation of the Trident common navigation equipment with reference to the maintenance support data system, navigation subsystem, data processing and system control equipment, and data transmission and miscellaneous equipment. The student will also be able to describe and use test instruments such as the digital multimeter, oscilloscope, relay module tester, Simpson multimeter, pulse/function generator, and electronic counter.

Instruction: Lectures and laboratory session cover the Trident common navigation system with topics on the operation and maintenance of the power supply and clock circuits, computer interface, memory, inertial loops and gyro support circuits, primary control circuits, mode sequencing, and preventive maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in microprocessors and 1 in electronic instruments and measurements laboratory (4/96).

NV-1715-1798

Trident Exterior Communications Subsystems
Maintenance Technician

Course Number: A-101-0727.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 42-50 weeks (1180-1279 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: This is a pipeline course consisting of other courses. See individual exhibits.

Instruction: See individual exhibits listed under A-101-0170, A-101-0172, A-101-0173, A-101-0175, A-101-0237, and A-101-0228.

Credit Recommendation: Credit is not recommended for this course; see exhibits above cited that comprise this course (4/96).

NV-1715-1799

Trident Fire Control Technician Basic
Operations

Course Number: A-113-0159; A-113-0159A.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 15 weeks (394 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform manual and computer-assisted target motion analysis, weapon prelaunch/postlaunch operations, and the basic operation of the combat control system Mk 2 Mod 3 and defensive weapons system Mk 118. The student will be able to understand the theory and operation of the ship's control subsystem.

Instruction: Lectures and hands-on exercises cover command and control laboratory and control room or defense weapons system operator trainer.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/96).

NV-1715-1800

Trident 1 Navigational Aids/Electrostatically Supported Gyro Monitor
(ESGM) Equipment

Course Number: A-193-0398.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 16 weeks (402-435 hours).

Exhibit Dates: 9/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform the operational, maintenance and testing functions required of an Navigation aids/electrostatiscally supported gyro compass monitor (NAVAIDS/ESGM) electronics replacement technician.

Instruction: Lecture and laboratory exercises cover the AN/BRN-8 radio navigation set, AN/BQN-3J sonar sounding set, electrostatically supported gyro monitor, and associated test equipment. Emphasis is placed on the operation, maintenance and testing of NAVAIDS/ESGM equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours of electronics systems troubleshooting (4/96)

NV-1715-1801

Ship Silencing Team
(Ship Silencing Team Analyst)

Course Number: A-210-0025.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2 weeks (78 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will apply the principles, rules, and concepts necessary to solve problems assigned to the ship silencing team; state the purpose of submarine sound silencing; describe the equipment available to acquire noise and vibration data; and identify the sources of noise and vibration; and describe the paths for noise transmission.

Instruction: Methods include lectures and monitoring subsystem laboratories or data processing subsystem trainer laboratories.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/96).

NV-1715-1802

Electrostatically Supported Gyro Navigator
Theory and Maintenance I

Course Number: A-193-0389.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 3-4 weeks (107 hours).

Exhibit Dates: 6/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory necessary to support, understand, and maintain the digital systems of the electrostatically supported gyro navigation system.

Instruction: Lectures and laboratory exercises cover the operation and maintenance of the electrostatically supported gyro with topics on basic digital logic fundamentals, power supply system, test control, and advanced fault isolation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital electronics (4/96).

NV-1715-1803

Controllers and Circuit Breakers Combined
Maintenance

Course Number: A-652-0108.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 2-3 weeks (94 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance, fault isolation, and repair on controllers and circuit breakers and an arc fault detector.

Instruction: Lecture and laboratory exercises lead to familiarity with several types of controllers and circuit breakers and on arc fault detector and support preventive and corrective maintenance.

Credit Recommendation: In the vocational certificate category, 2 semester hours in maintenance of controllers and circuit breakers (4/96).

NV-1715-1804

Electrostatically Supported Gyro Navigator
Theory and Maintenance 2

Course Number: A-193-0390.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 3-4 weeks (108 hours).

Exhibit Dates: 6/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and operational tasks requiring advanced analysis, all preventive maintenance, and fault isolation and repair of the electrostatically supported gyro navigator.

Instruction: Lectures and laboratory exercises cover the theory, operation, and maintenance of the gyro navigator with topics on control circuits, processor, readout circuits, servo circuits, computer programs, advanced theory and maintenance, and corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in digital systems (4/96).

NV-1715-1805

Trident 1 Fire Control Technician To Missile
Technician Conversion

Course Number: A-121-0562.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 7 weeks (215 hours).

Exhibit Dates: 6/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the basic theory, operation, and maintenance of the launching system and associated equipment.

Instruction: Lecture and laboratory sessions cover system data flow, theory of operation, hydraulic system, and testing and maintenance procedures of the Mk 35 Trident launching system and associated equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in industrial electronics (4/96).

NV-1715-1806

Trident 1 Missile Technician Conversion

Course Number: A-121-0561.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 7-8 weeks (242-243 hours).

Exhibit Dates: 3/93–Present.

Learning Outcomes: Upon completion of the course, the experienced Mk-35 Mod-0 missile technician will have the necessary knowledge and skills to operate and maintain the Mk-98 Mod-0 fire control system readiness equipment and missile test and readiness equipment (MTRE) Mk-6 Mod-4 missile.

Instruction: Through lectures and laboratories emphasis is placed on system data flow, theory of operation, and maintenance procedures. Equipment trainers used are MCC system and MC/OAG laboratories.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in microcomputer systems operations (4/96).

NV-1715-1807

Trident 1 Missile Technician Replacement

Course Number: A-121-0560.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 35 weeks (902-910 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Upon completion of the course, the student will have the knowledge and skills necessary to operate and maintain the Trident I (C4) missile Mk-98 Mod-0 fire control system, Mk-34 Mod-0 launcher system, and weapons system support equipment.

Instruction: This course provides group-paced lectures and hands-on laboratory exercises on the Trident 1 weapons system. Emphasis is placed on system data flow, theory of operation, testing, and basic maintenance operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours microcomputer systems operation (4/96).

NV-1715-1808

Trident Exterior Communications Subsystem
Level 1 Operator
(Trident Exterior Communications Operator)

Course Number: A-101-0726.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 11 weeks (440 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to define the abbreviations and terms associated with the exterior communications system, state the operational characteristics of each subsystem, and describe all the major components of the subsystem. The student will be able to use all the technical documentation required to support basic operations.

Instruction: Lecture and hands on laboratory using trainers that are equipment specific. ECS subsystems studied are control, monitor, and test, subsystems; data switching subsystem; antenna interface subsystem, special communications subsystem, VLF/LF subsystems, HF/UHF subsystems; and ELF subsystems.

Credit Recommendation: In the vocational certificate category, 6 semester hours in communications techniques (1/97).

NV-1715-1809

Trident Exterior Communications Subsystem
Support Subsystem Basic Maintenance

Course Number: A-101-0172; A-101-0172B.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 4 weeks (120 hours).

Exhibit Dates: 9/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the organization, content, and use of all technical documentation that relates to the exterior communication subsystem; state the function and operational characteristics of the power distribution group; perform corrective maintenance on power switchboards and electronic air coolers; identify the major functional areas of a teletypewriter; and perform preventative and corrective maintenance on teletypewriters.

Instruction: Lectures and hands-on laboratory exercises cover fault identification and correction. Equipment and training materials used in the course are block diagrams of the system, AN/BSC-1 trainers, and digital multimeters.

Credit Recommendation: In the vocational certificate category, 2 semester hours in teletypewriter maintenance and 2 in electrical blueprint reading (4/96).

NV-1715-1810

Trident Exterior Communications Subsystem
Antenna/Antenna Interface
Subsystem Basic Maintenance

Course Number: A-101-0173; A-101-0173C.

Location: Trident Training Facility, Bangor, Bremerton, WA.

Length: 5 weeks (160 hours).

Exhibit Dates: 8/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to state the operational characteristics and capabilities of the C-10443/BSC-1 control interface unit, SA-2197/96 frequency switching unit, CV-3514/BSC-1 converter switching unit, CU-2270/BRC antenna coupler, and AN/BRR-6 towed buoy antenna; describe the functional operation of the antenna subsystems to support preventive and corrective maintenance; and define the procedures to disassemble, repair, and reassembly of the various subsystems.

Instruction: Lecture and hands on laboratory exercises cover fault identification and correction, alignment procedures using DVMs, signal generators, oscilloscopes, frequency converters, and subsystem trainer.

Credit Recommendation: In the vocational certificate category, 3 semester hours in antenna systems laboratory (4/96).

NV-1715-1811

Trident Sonar Technician Submarine (STS)
Consolidated Maintenance

Course Number: A-130-0353.

Location: Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA.

Length: 23 weeks (902 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform maintenance on the Trident sonar detection and tracking group and its subsystems.

Instruction: Lecture and laboratory exercises cover the maintenance of various subsystems related to a computer-controlled sonar detection, classification, and tracking system, including power control and distribution, systems interfaces, and underwater communications systems.

Credit Recommendation: In the vocational certificate category, 6 semester hours in systems troubleshooting and fault identification on the subordinate level (4/96).

NV-1715-1812

Relocatable Over The Horizon Radar

Course Number: J-221-0302.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 4-5 weeks (208 hours).

Exhibit Dates: 6/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate watch equipment and to stand watch in a military-specific over-the-horizon control and command center.

Instruction: Group-paced lectures, laboratories, and simulated situations are used to create operational proficiency on the watch equipment. Topics covered include control panel operation and maintenance, control center procedures, and safety precautions.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (5/96).

NV-1715-1813

1. Naval Tactical Command System Afloat (Force Level) Maintenance
2. Naval Tactical Command System Afloat Maintenance 10-17

Course Number: *Version 1:* J-150-2306. *Version 2:* J-150-2306.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Advanced Electronics School, San Diego, CA.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 9 weeks (360 hours).

Exhibit Dates: *Version 1:* 8/95–Present. *Version 2:* 6/93–7/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and repair electronic communications circuits and large screen display devices. *Version 2:* Upon completion of the course, the student will be able to operate, maintain, and repair electronic communications circuits; high, low, and medium resolution monitors; and audio/video electronic switching circuits.

Instruction: *Version 1:* This course is group-paced with lectures, laboratories, and practical exercises that discuss CRTs, audio-video switching circuits, and high resolution monitors. *Version 2:* Group-paced lectures, laboratories, and practical exercises present topics on CRTs, audio-video switching circuits, color high resolution monitors, and TIMS military-specific computer system.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer display maintenance and repair and 3 in electronic communications (5/96). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in computer display maintenance and repair, 3 in electronic communications, and 2 in computer systems maintenance and repair (5/96).

NV-1715-1814

Tactical Support Center Communications Operator

Course Number: J-201-0816.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Before 3/92 see NV-1715-1176. Upon completion of the course, the student will be able to operate and coordinate various subsystems of the antisubmarine warfare tactical communications platform, including computers, HF modems, HF receivers, cryptographic systems, recording/reproduction equipment, electronic switching system, and signal processes and multiplexers.

Instruction: Methods of instruction include lecture and performance laboratory. Topics include communications security, authentication, ASW aircraft, radiotelephone, search and rescue procedures, antennas, frequency selection, voice systems, transceivers, transponder/reproducers, electronic switching systems, voice systems signal flow, multiplexers, cryptographic equipment, modems, data link systems, HF receivers, remote control systems, signal processors, data bases, and data transfer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications (5/96).

NV-1715-1815

Naval Command Control System Ashore Maintenance Technician

Course Number: J-221-0389.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Before 1/96 see NV-1715-1177. Upon completion of the course, the student will be able to operate, troubleshooting, and perform corrective maintenance on color large screen displays, microcomputer-based communications equipment, and telecommunications equipment. Students also are trained in UNIX shell programming and UNIX system administration.

Instruction: Lectures, demonstrations, and practical exercises provide instruction in network management, UNIX programming architecture, file management systems, shell structures, peripheral interface procedures, colored large screen equipment, and maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer system troubleshooting and maintenance and 3 in UNIX shell programming (5/96).

NV-1715-1816

Aviation Technician Level 1 Strand, Class A1

Course Number: C-100-2017.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 15 weeks (524-526 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair avionics systems at the apprentice level.

Instruction: This course covers basic trigonometry; AC/DC electricity series and parallel LCR circuits; and basic electronic devices such as diodes, transistors, operational amplifiers, power supplies, voltage regulators, digital and microprocessor basics, communications electronic circuits, and radar. Learning methods include lectures, discussions, and laboratory exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC/AC circuits, 3 in solid state electronics, 3 in electronic communications, and 3 in radar principles. For credit for the Common Core, see NV-1715-1819 (1/97).

NV-1715-1817

Aviation Technician O Level Strand, Class A1
(Aviation Technician Organizational Level Strand, Class A1)

Course Number: C-100-2018.

Location: Air Technical Training Center Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 5 weeks (171-174 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to function as an entry level avionics organizational maintenance technician.

Instruction: This course covers electronic subsystems found in aircraft avionics systems. Including transmitters, receivers, antennas, transmission lines, radar, navigation systems, and aircraft wiring and electrical systems. Emphasis is placed on troubleshooting and repair. Instructional methods include lectures, discussions, and laboratory assignments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft electrical and electronic systems. For credit for the Common Core, see NV-1715-1819 (1/97).

NV-1715-1818

Marine Air Traffic Control Basic Technician, Class A1

Course Number: C-100-2019.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 10-11 weeks (361 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair electronic equipment.

Instruction: The course covers basic mathematics, DC and AC electricity, series and parallel LCR circuits, basic electronic devices, operational amplifiers, power supplies, voltage regulators, digital and microprocessor electronics, and communications electronic circuits. Learning methods include classroom lectures, discussions, and laboratory assignments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC and AC electronics, 3 in solid state electronics, and 3 in electronic communications. For credit for the Common Core, see NV-1715-1819 (1/97).

NV-1715-1819

Aviation Technician Common Core, Class A1

Course Number: C-100-2020.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 7 weeks (260 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will have the basic knowledge in aircraft fundamentals and electronics/electricity.

Instruction: The course covers basic aircraft fundamentals as related to avionic training, including basic algebra, electric circuit fundamentals, series and parallel AC and DC circuits, basic electronic test equipment, electronic devices and components, soldering, and digital circuit fundamentals. Instructional methods include lectures and discussions and laboratory assignments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 2 in introduction to aircraft systems, and 3 in solid state electronics (1/97).

NV-1715-1820

Aviation Electrician's Mate Strand, Class A1

Course Number: C-602-2039.

Location: Air Technical Training Center, Pensacola, FL; Air Technical Training Center, Memphis, Millington, TN.

Length: 13 weeks (520 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform routine and scheduled maintenance on aircraft electrical, instrument, and navigational systems.

Instruction: This course covers aircraft wiring, lighting circuits, troubleshooting electric circuits, solid state electronics, aircraft generators and voltage regulators, power distribution systems, aircraft control surfaces, landing gear, ignition systems, fuel quantity systems, and aircraft instruments. Instructional methods include classroom lectures and discussions, and laboratory assignments.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft electrical systems, 3 in solid state electronics, and 3 in aircraft instrument systems. For credit for the Common Core, see NV-1715-1819 (1/97).

NV-1715-1821

Marine Air Traffic Control and Landing Systems Systems Analysis, Class M3

Course Number: C-103-2112.

Location: Air Technical Training Center, Pensacola, FL.

Length: 3-4 weeks (128 hours).

Exhibit Dates: 4/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a supervisor for Marine air traffic control and landing systems equipment maintenance operations and embarkation procedures during field operations that establish expeditionary airfields.

Instruction: This course covers the operation of navigational aids, radar operation, and communications equipment operation. Methodology includes lectures, demonstrations, and practical exercises.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in radar fundamentals and 1 in AC communications (8/96).

NV-1715-1822

E-6A Airborne Communications Officer

Course Number: C-2D-3503.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 2 weeks (80 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify the capacity and location of nine aircraft generators; identify the various communications systems onboard that rely on these generators; identify various components of seven interconnecting communications systems and subsystems including message processors, teletype, UHF, inflight performance monitoring system, and VLF transmitters and receiving subsystems; and extend and retract long trailing wire antenna.

Instruction: Lectures cover aircraft power generators seven main VLF, UHF, teletype communication systems and subsystems; and long trailing wire antenna extend and retract exercises. A written test is administered at the end of the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in communications systems (4/97).

NV-1715-1823

E-6A Mission Avionics System Organizational Maintenance

Course Number: C-102-4502.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 18 weeks (720 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to: analyze AC power distribution circuits including circuit breakers and busses generator control; describe concepts of servos, amplifiers, filter circuits, modulators, A/D converters, preamplifiers, and modems; use block diagrams to describe HF and UHF transmitter/receiver systems for voice data and satellite systems including both wide and narrow band systems; describe, operate, and maintain various antenna systems; and operate related test equipment including multimeters, signal generators, wattmeters, and time domain reflectometer.

Instruction: Lectures, demonstrations, and hands-on laboratory exercises cover the introduction to communications systems (security and power distribution); voice communications (keyline, HF, UHF, voice); data communications (time division multiplexor, message processing, modems, simplex/duplex); UHF satellite (data); UHF transmitter/receiver, (antennas, wide and narrow band); very low frequency communications (frequency time standard, uninterruptible power supply, cathodes ray tube, notch filters, uninterruptible power supply theory); and VLF power amplifiers.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications, 4 in digital communications, and 1 in aircraft radio systems (4/97).

NV-1715-1824

E-6A Flight Engineer Organizational Level Maintenance

Course Number: C-050-3502.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 18 weeks (672-720 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will demonstrate knowledge of physical sciences and aircraft maintenance, including electrical, hydraulics, fuel, communications, navigation, landing gear, wheel brake, turbine engine, navigation, flight control, environmental control and lighting systems.

Instruction: Instruction includes traditional classroom instruction, laboratory exercises, computer-based training, and on-aircraft training.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in physical science, and 1 in electrical, instruments/navigation/lighting theory; 1 in electrical, instruments/navigation/lighting laboratory; 1 in environmental, fuel, and oxygen theory; 1 in environmental fuel, and oxygen laboratory; 2 in turbine engines and auxiliary power unit theory; 2 in turbine engines and auxiliary power unit laboratory; 3 in wheel brakes, hydraulics, landing gear, and flight control theory; and 3 in wheel brakes, hydraulics, landing gear, and flight control laboratory (4/97).

NV-1715-1825

E-6A Communications Operator

Course Number: C-102-4501.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 9 weeks (360 hours).

Exhibit Dates: 9/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify components, and operate and troubleshoot the power distribution system, intercommunications subsystem, teletype subsystem, message processor, VLF transceiver, UHF and SATCOM subsystems, cassette recorders, and inflight performance monitor of an E-6A aircraft.

Instruction: Lectures, and laboratory (with written and laboratory examinations) cover an introduction to E-6A aircraft, communications system, integrated drive power generators, bus power control unit, batteries, intercommunications subsystem, keyline system, high frequency subsystem and antennas, communications security module and terminal unit, teletype subsystem (including full and half duplex circuits), frequency shift keying, time division multiplexing, TACAMO message processing subsystems, VLF transceivers, UHF and satellite communications systems; preflight circuit setup, fault isolation, and troubleshooting and repair of all systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in communications systems and 3 in radio/communications operator laboratory (4/97).

NV-1715-1826

E-6A Flight Deck Avionics Systems Organizational Maintenance

Course Number: C-102-3515.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 6 weeks (240 hours).

Exhibit Dates: 2/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify and select electrostatic discharge and electromagnetic pulse control methods; describe functioning of aircraft power distribution system, flight deck equipment and components, racks, and avionics systems, VHF and UHF intercommunications system, HF radio system, aircraft navigation systems, and navigational aids; including system purpose, power requirements, component location and functions, controls and indications, and signal flow perform operational checkout and troubleshooting of LTN-90, computer system, DAC, TACAN system, ANINC-550 LF automatic direction finder, marker beacon system, low range radio altimeter, and radar/sensor systems.

Instruction: Lectures, laboratories, demonstrations, audiovisual aids, and written and laboratory examinations cover technical manual use, control, aircraft power distribution, flight deck overview, VHF/UHF intercommunications systems, HF radio, secure voice system, inertial reference system, flight management computer system, D/A converter system, TACAN system, VHF navigation system, LF automatic direction finding system, marker beacon system, low range radio altimeter, weather and rendezvous radar systems, electronic support measures system, and flight recorder/locater system. Testing, fault isolation, and troubleshooting exercises are performed on actual systems for the lab experiments.

Credit Recommendation: In the upper-division baccalaureate category, 2 semester hours in communications/navigational systems theory and 2 in communications/navigational systems laboratory (4/97).

NV-1715-1827

E-6A Mission Avionics System Intermediate Maintenance

Course Number: C-102-4506.

Location: Naval Air Maintenance Training Detachment, Tinker AFB, Oklahoma City, OK.

Length: 15 weeks (580 hours).

Exhibit Dates: 7/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify, troubleshoot, and explain the operation of including ESD, gates, flip-flops, encoders, registers, buffers, code conversion, data multiplexing, and plasma displays; troubleshoot and explain microprocessor concepts, including RAM, ROM, control circuits, drive circuits, and printers; identify, troubleshoot, and explain electronic circuits, including voltage monitoring, LPMD drivers, power supplies, voltage-controlled oscillators, automatic gain control, phase locked loops, frequency converters; and operate electronic bench equipment, including signal generators, voltmeters, digital multimeters, oscilloscopes (storage and nonstorage), pulse generators, distortion analyzers, programmable waveform synthesizers, and frequency difference meters.

Instruction: Lecture, demonstration, hand-on laboratory exercises, and computer-based training provides review of basic circuit fundamentals, review of digital circuit fundamentals, basic digital circuits, microprocessor fundamentals and circuits, and a variety of fundamental electronic circuits voltage control oscillators, power supplies, automatic gain control, phase locked loops, and frequency converters in real applications.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in digital devices and circuits, 4 in microprocessors and circuits, and 3 in electronic devices and circuits (4/97).

NV-1715-1828

General Purpose Electronic Test Equipment Repair and Calibration

Course Number: C-198-6671.

Location: Technical Training Unit, Keesler AFB, MS.

Length: 15 weeks (600 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, calibrate, analyze, troubleshoot, maintain, and repair general purpose electronic test equipment, including meters, oscilloscopes, frequency counters, spectrum analyzers, signal generators, attenuators, and resistors.

Instruction: Classroom written tests, laboratory audiovisuals demonstrations are course methods. Topics include calibration theory, use of standards (meters, oscilloscopes, electronic counters, signal generators, attenuators, resistors), equipment calibration, repair theory, troubleshooting, and safety procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic test equipment, calibration, and repair (4/97); in the upper-division baccalaureate category, 2 semester hours in electronic theory (4/97).

NV-1715-1829

Advanced Calibration Technician

Course Number: A-198-2011.

Location: Technical Training Unit, Keesler AFB, MS.

Length: 12 weeks (476 hours).

Exhibit Dates: 10/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to coordinate the standardized recall and scheduling of test and monitoring systems within a metrology and calibration program.

Instruction: Lectures and practical exercises cover all phases of test and monitoring systems, including resistance, impedance, voltage, and current; meter calibration, frequency calibration, and time and signal measurement; warfare analysis; oscilloscope calibration; signal generation; microwave theory and application; and sweep, frequency, and network analyzer measurements.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic test equipment calibration and 4 in introductory electronic/microwave theory and application (4/97).

NV-1715-1830

Interior Communications Principles

Course Number: A-623-0123.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2-3 weeks (90-91 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform normal operational procedures on ship's control station, missile compensation system, liquid flow indicating equipment, and the Mk-27 gyrocompass.

Instruction: Instruction is provided in a lecture and laboratory format covering the general operations and maintenance of the equipment identified above.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/97).

NV-1715-1831

Launcher Control Group Advanced Circuitry

Course Number: A-121-0538.

Location: Trident Training Facility, Kings Bay, GA.

Length: 2-3 weeks (68 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform corrective maintenance on a launcher control group using specific tools and fault isolation.

Instruction: Methods of instruction are lecture and laboratory experiences that cover basic theory, function, operation, and maintenance procedures and schematic diagrams, system test modes, and signal flow.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in electronics technology laboratory (4/97).

NV-1715-1832

Strategic Weapons System Support Indication Control Alarm System

Course Number: A-121-0541.

Location: Trident Training Facility, Kings Bay, GA.

Length: 2-3 weeks (63 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to discuss the function and operation of specified microprocessors.

Instruction: Classroom discussion and laboratory exercises are used.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in microprocessors (4/97).

NV-1715-1833

Trident 2 Missile Technician Replacement

Course Number: A-121-0563.

Location: Trident Training Facility, Kings Bay, GA.

Length: 19-20 weeks (573-574 hours).

Exhibit Dates: 9/93–Present.

Learning Outcomes: Upon completion of the course, the student will apply corrective maintenance skills, electronic troubleshooting skills, and basic computer processor application skills to the support of the Trident 2 strategic weapons system.

Instruction: Course instruction includes significant lecture and theory presentation with applied and hands-on laboratory experiences. Computer hardware, videos, and schematic diagrams are also used in this course.

Credit Recommendation: In the lower-division baccalaureate/associate degree cate-

gory, 1 semester hour in microprocessors, 2 in electronic systems troubleshooting and maintenance, and 1 in electromechanical systems troubleshooting and maintenance (4/97).

NV-1715-1834

Trident 2 Missile Technician Conversion

Course Number: A-121-0564.

Location: Trident Training Facility, Kings Bay, GA.

Length: 7-8 weeks (295 hours).

Exhibit Dates: 9/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain the Mk-98 MOD-1 fire control system.

Instruction: Lectures and practical applications in testing and maintenance procedures for the fire control system are employed.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/97).

NV-1715-1835

Trident 2 Fire Control Technician To Missile Technician Conversion

Course Number: A-121-0565.

Location: Trident Training Facility, Kings Bay, GA.

Length: 5-6 weeks (218 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will have the knowledge of system data flow, operation, testing, and preventive maintenance skills necessary to operate and maintain the Trident 2 (D-5) missile.

Instruction: Lectures and practical laboratory instruction cover basic data flow, systems knowledge, and preventive maintenance of the missile.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/97).

NV-1715-1836

AN/BQQ-5E V3/V4 Maintenance

Course Number: A-130-0340.

Location: Submarine School, New London, Groton, CT; Trident Training Facility, Kings Bay, GA.

Length: 11 weeks (266 hours).

Exhibit Dates: 6/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to provide corrective and preventive maintenance, including alignment, adjustments, and calibration procedures, operational test, diagnostic programs, and the use of special tools and test equipment on specified electronic and sensor equipment.

Instruction: Lectures and advanced laboratory exercises are used.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic troubleshooting laboratory (4/97).

NV-1715-1837

AN/BQQ-5E V3/V4 Basic Operator Conversion

Course Number: A-130-0343.

Location: Submarine Base, New London, Groton, CT; Trident Training Facility, Kings Bay, GA.

Length: 4 weeks (60 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will have the basic knowledge to operate the AN/BQQ sonar set in all modes.

Instruction: Classroom and laboratory exercises cover the function and basic operation of specified sonar equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/97).

NV-1715-1838

AN/BQQ-5E Auxiliary Equipment

Course Number: A-130-0354.

Location: Submarine School, New London, Groton, CT; Trident Training Facility, Kings Bay, GA.

Length: 11-12 weeks (218 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic corrective maintenance functional tests and systematic fault isolation procedures and disassemble, repair, and reassemble sonar and auxiliary equipment.

Instruction: Lectures and practical exercises cover the theory of equipment operation, use of special tools and equipment, shop safety, and documented maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting and maintenance (4/97).

NV-1715-1839

AN/BPS-16 Radar and AN/SPA-25G Indicator Combined Maintenance

Course Number: A-233-0092.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 4-5 weeks (103 hours).

Exhibit Dates: 4/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic corrective and preventive maintenance on a Trident submarine radar system.

Instruction: Lectures and laboratory exercises cover the operation and basic maintenance of the radar system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in radar systems (4/97).

NV-1715-1840

6L16 Electrolytic Oxygen Generator Electrical Technician

Course Number: A-623-0039.

Location: Submarine Training Facility, Norfolk, VA; Submarine Training Facility, San Diego, CA; Submarine School, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 3 weeks (102 hours).

Exhibit Dates: 12/96–Present.

Learning Outcomes: Upon completion of the course to performr the electrical maintenance on an oxygen generator.

Instruction: Approximately one-third of the course provides instruction in power supplies, contact annunciators, magnetic amplifier annunciators, readout circuits, and pressure controller systems. The balance of the course is devoted to troubleshooting and calibration.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/97).

NV-1715-1841

Controllers and Circuit Breakers Combined Maintenance

Course Number: A-662-0108.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 2-3 weeks (94 hours).

Exhibit Dates: 11/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on switch gear, controllers, and ARC fault detection systems.

Instruction: Classroom and practical laboratory exercises cover controls, electrical and electronic circuitry, electromechanical energy conversion, and electrical/electronics troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in industrial electronics (4/97).

NV-1715-1843

AN/BQQ-5E (V4) Consolidated Maintenance Conversion

Course Number: A-130-0344.

Location: Trident Training Facility, Kings Bay, GA.

Length: 5-6 weeks (219-220 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe documented and undocumented fault isolation and repair procedures and perform preventive maintenance procedures on specified sonar equipment.

Instruction: Lectures and laboratory exercises cover the theory, function, and preventive and corrective maintenance procedures of sonar equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic system troubleshooting and maintenance (4/97).

NV-1715-1844

Trident Fire Control Technician Maintenance

Course Number: A-150-0276.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 43-44 weeks (869-870 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, troubleshoot, and repair all component parts of a data processing subsystem.

Instruction: Lectures and extensive hands-on applications cover disassembly, troubleshooting, and repair of all components in a computer data processing system. Practical exercises include detailed logic, circuit analysis, power supplies, input/output devices, and test equipment.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in electronic systems troubleshooting and maintenance, 6 in computer systems and organization, and 5 in computer systems troubleshooting and maintenance (4/97).

NV-1715-1845

Communications Noncommissioned Officer (NCO)

Course Number: K-201-3334.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 1-2 weeks (54-55 hours).

Exhibit Dates: 5/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to organize and manage communications systems.

Instruction: The course includes classroom instruction and laboratory with lectures, demonstrations, and practical exercises. Course includes design, maintenance, and management of a secure, reliable, and flexible communications system. The course stresses management and communications theory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications and 1 in communications systems management (10/97).

NV-1715-1846

Landing Force Ground Combat Element Communication Staff Planning

Course Number: K-4C-3331.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 1-2 weeks (45 hours).

Exhibit Dates: 10/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to plan communications for amphibious operations including personnel, equipment, and supplies.

Instruction: Lectures, demonstrations, and practical applications cover planning for amphibious operations. Including the computerized systems to account for personnel, equipment, and supplies.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to satellite communications (10/97).

NV-1715-1847

Basic Acoustic Analysis Refresher

Course Number: K-130-1074.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 2 weeks (71 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Upon completion of the course, the student will be provided with current sonar signatures.

Instruction: The course contains lectures and practical exercises relating to the most recent sonar signatures for ships and related equipment of all countries.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/97).

NV-1715-1848

Underwater Fire Control System Mk 116/7 Antisubmarine Control System Maintenance/Operator

Course Number: K-130-0281.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 17 weeks (332 hours).

Exhibit Dates: 4/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform routine preventive and corrective maintenance on the Mk 116 computer system and associated peripheral such equipment as magnetic tape units, teleprinters, and magnetic recorder/reproducers.

Instruction: This course contains both lectures and practical exercises relating to the basic theory, operation, and maintenance of such equipment as the AN/UYK-7 computer, the AN/UYK-43(V) computer, the TT-624(V) teleprinter, the OL-267(V) data terminal and the AN/UYH-3(V) magnetic disk set.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours computer systems troubleshooting and maintenance (10/97).

NV-1715-1849

Antisubmarine Warfare/Tactical Air Controller

Course Number: K-221-2503.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 10 weeks (392 hours).

Exhibit Dates: 7/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to coordinate the tactical employment of rotary/fixed-wing aircraft and the LAMPS Mk III weapon system and directly control the aircraft sensor configurations based on the type of mission and real-time data from the aircraft.

Instruction: Methods of instruction include lecture, overhead transparencies, charts, board cards, magnetic cards, and laboratory exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/97).

NV-1715-1850

Digital and Electronics Training

Course Number: K-130-0271.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 13 weeks (337-455 hours).

Exhibit Dates: 1/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to analyze series-parallel and series parallel circuits DC and AC circuits; analyze, troubleshoot, and repair transistor amplifiers and waveshaping circuits; and analyze, troubleshoot, and repair basic digital circuits.

Instruction: Lecture and laboratory practice covers mathematics and practical analysis of DC and AC series, parallel and series-parallel circuits, transformers, synchros and servos, basic transistor theory, multistage amplifiers, pulse shaping circuits, power supplies, basic logic gates, flip-flops, decoders, encoders, and counters.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC circuits, 3 in AC circuits, 3 in solid state electronics, and 3 in digital principles (10/97).

NV-1715-1851

AN/SQQ-89(V)1/3 Sonar Watch Supervisor

Course Number: K-130-1102.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 4 weeks (146 hours).

Exhibit Dates: 10/92–4/98.

Learning Outcomes: Before 10/92 see NV-1715-1504. Upon completion of the course, the student will be able to supervise a sonar team in antisubmarine warfare operations; recommend a sonar search plan; obtain and evaluate data; and supervise search methodology.

Instruction: Lectures and practical exercises cover search methodology using equipment in the sonar suite.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/97).

NV-1715-1852

Basic Acoustic Analysis

Course Number: K-130-1128.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 12/95–Present.

Learning Outcomes: Upon completion of the course, the student will apply fundamentals of acoustic signals to aid in the identification of surface ships, submarines, and torpedoes.

Instruction: The course contains lectures and practical exercises in the fundamentals of acoustic wave propagation, the mechanics of sound production by propellers and other propulsion systems, signatures for various types of ships and devices, and the recognition of specific signatures for ships and torpedoes of various countries.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in introduction to acoustics (10/97).

NV-1715-1853

Sonar AN/SQS-53C Maintenance, Class C

Course Number: K-130-1106.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 22 weeks (490-800 hours).

Exhibit Dates: 2/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain, troubleshoot, and repair the AN/SQS-53C sonar system consisting of transmitters, receivers, power control and distribution, power surplus, system controller, signal/data processor, peripheral I/O devices, data storage units, computer consoles, and operator terminals.

Instruction: Lectures, laboratory, and fault simulation exercises cover operation, maintenance, troubleshooting, repair, and testing techniques for each subsystem and the evaluation of overall system performance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance (10/97).

NV-1715-1854

Underwater Fire Control Mk 116/4 Operator and Maintenance, Class C

Course Number: K-130-0247.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 25 weeks (534-875 hours).

Exhibit Dates: 7/97–Present.

Learning Outcomes: Before 7/97 see NV-1715-0268. Upon completion of the course, the student will be qualified to operate, maintain, and repair an underwater battery fire control system.

Instruction: Lectures and practical exercises cover numbering systems, digital logic, torpedo maintenance, general computer architecture and theory, and the AN/UYK-7 computer set and peripherals. In computer architecture topics covered include functional operation of digital computers, processors, memories, input/output, microprocessors, machine and assembly language programming, and mapping. A detailed study of the AN/UYK-7 computer, including CPU, main memory, power supply, and peripheral tape units is included as well as troubleshooting procedures, circuit measurements, diagnostic software, and systems level maintenance procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in digital fundamentals, 3 in computer architecture, and 6 in computer system maintenance and repair (10/97).

NV-1715-1855

Sonar AN/SQS-56 Maintenance

Course Number: K-130-0202.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Before 1/91 see NV-1715-0272. Upon completion of the course, the student will be able to maintain, troubleshoot, and repair the a sonar system consisting of transmitters, receivers, power control system controller, data processor, transducer arrays and interfaces, and display console.

Instruction: Lectures, laboratories, and fault simulation exercises cover the basic operation, maintenance, troubleshooting, repair, and testing techniques for each subsystem and the evaluation of overall system performance at the board and component level.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance and 3 in electronic systems troubleshooting and maintenance (10/97).

NV-1715-1856

Surface Sonar Technician, Class A

Course Number: K-130-0037.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 6 weeks (176 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Before 6/96 see NV-1715-0423. Upon completion of the course, the student will understand basic ocean acoustics, sonar fundamentals, antisubmarine warfare fire control fundamentals, range prediction, passive and active operations, and antisubmarine warfare administration in accordance with the most current intelligence data.

Instruction: Lectures and practical exercises cover the physics of underwater sound propagation; the components of active and passive sonar systems; operation of fire control systems; operation of auxiliary underwater equipment; aural familiarization and classification of underwater sounds; and use of voltmeters, multimeters, oscillators, counters, and oscilloscopes.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in physics of underwater acoustics and 1 in basic electronic test equipment (10/97).

NV-1715-1857

Integrated AN/SQR-19(V) Towed Array and AN/SQQ-28(V) Sonobuoy Sensors Maintenance

Course Number: K-130-1123.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA.

Length: 30 weeks (491-1000 hours).

Exhibit Dates: 5/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the function of integrated towed arrays and sonobuoy sensors and perform preventive and corrective maintenance on the systems, including system control panel, power distribution equipment, magnetic disk set, data terminal set, recorders, control unit, interface signal switching unit, signal conditioner and receiver, spectrum analyzer, and computer display set.

Instruction: Methods of instruction include group paced lectures and laboratory work for preventive and corrective maintenance, including operational tests, fault isolation, diagnostic program use and postrepair procedures observing personnel and equipment safety precautions.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (10/97).

NV-1715-1859

Mk 86 Mod 9 Class C Gun Fire Control System Maintainer/Operator

Course Number: A-113-0174.

Location: Service School Command, Great Lakes, IL.

Length: 22-33 weeks (920 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair and operate the Mk 86 gun fire control system.

Instruction: Group-paced lectures and laboratory activities on the analysis, troubleshooting, and maintenance of power systems, radar system, electronic frequency converter unit, transmitter unit, antenna unit, control amplifier interface, and video amplifier interface.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications, 3 in radar systems, and 3 in electronic systems troubleshooting and maintenance (10/97).

NV-1715-1860

Radiation Detection Indication, and Computation (RADIAC) Equipment Calibration and Repair

Course Number: A-670-0020.

Location: Service School Command, Great Lakes, IL.

Length: 5 weeks (190 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Before 6/96 see NV-1715-0545. Upon completion of the course, the student will be able to operate and maintain instruments used in the measurement of radioactive sources; operate, calibrate and do corrective maintenance on nutron survey meters, dosimeter reader, scintillation meter, tritium calibrators, and gamma alarm meters; define terms used in basic nuclear physics; discuss the medical aspects of radioactivity, and test for radioactive leaks; and meet the Atomic Energy Commission requirements.

Instruction: Group-paced lecture and practical laboratory demonstrations and performance exercises on RADIAC Calibrator Set AN/UDM-1 Gamma Alarm Monitor BZ-216, Low Survey Meters AN/PDR-27, High Survey Meters AH/DPR-43, Alpha Survey Meter AN/PDR-56, Neutron Survey Meter AN/PDR-70, and Tritium Air Monitor AN/PDR-73.

Credit Recommendation: In the vocational certificate category, 3 semester hours in technical physics (10/97); in the lower-division baccalaureate/associate degree category, 3 semester hours in radiation instrument maintenance (10/97).

NV-1715-1861

Vertical and Short Take-Off Optical Landing System (VSTOL)

Course Number: A-670-0064.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to state the function, location, and documentation of the VSTOL OLS equipment; and describe the theory needed to perform all preventive and basic corrective maintenance of the equipment.

Instruction: Includes lectures, demonstrations, and performance activities on EMI filter and power supply, power step-down transformer, filter capacitors, electronics enclosure assembly, indicator display assembly, and preventive and corrective maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronics troubleshooting and maintenance (10/97).

NV-1715-1862

Mine Hunter Coastal Machinery/Ship Control System Maintenance

Course Number: A-651-0123.

Location: Service School Command, Great Lakes, IL.

Length: 5 weeks (200 hours).

Exhibit Dates: 2/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate an understanding of the knowledge required to complete follow-on training in performing maintenance of the machinery/ship control system; perform routine preventive maintenance and repair on the system; and describe the theory necessary to support all corrective maintenance on the equipment or program of the machinery/ship control system.

Instruction: Includes lectures, demonstrations, and performance activities on electromechanical systems, digital systems, man-machine interface subsystem, preventive and basic corrective maintenance, data acquisition subsystem, uninterruptable power supply, bell/data logger printer, and machinery/ship control system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic system troubleshooting and maintenance (10/97).

NV-1715-1863

Electronics Technician Communications Strand, Class A

Course Number: A-100-0146.

Location: Service School Command, Great Lakes, IL.

Length: 14 weeks (553 hours).

Exhibit Dates: 2/97–Present.

Learning Outcomes: Upon completion of the course, the student will comprehend the principles, rules, and concepts of communications which are necessary to troubleshoot transmitters and receivers; state how electromagnetic interference affect radio wave propagation; explain the operating principles of transmission lines; describe the characteristics of an antenna in terms of polarization, gain, and radiation resistance; and describe the operational characteristics and subsections of a radar receiver.

Instruction: Includes lecture, demonstrations, and performance exercises on radio receivers, radio transmitters, fault isolation and repair of faults, antenna systems, radar power distribution, and phase-lock loops.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in communications (with radar endorsement) (10/97).

NV-1715-1864

Electronics Technician Radar Strand Class A

Course Number: A-100-0147.

Location: Service School Command, Great Lakes, IL.

Length: 13 weeks (514 hours).

Exhibit Dates: 5/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance on electronic equipment; use and interpret technical manuals and schematics; comprehend the principles, rules, and concepts of radar which are necessary to troubleshoot and solve problems; describe the characteristics of an antenna in terms of polarization, gain, and radiation resistance; and use authorized methods to isolate faults which cannot be located using procedures contained in prescribed maintenance documentation.

Instruction: Includes lecture, demonstrations, and performance exercises on radio transmitter and receiver; communication principles; radar principles; operational description of the AN/SPS-64 radar set; and basic operation and basic corrective maintenance of the CV-3989/sp signal converter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in radar theory, operation, and maintenance (with radio endorsement) (10/97).

NV-1715-1865

Fleet Electronics Technician

Course Number: A-102-0317.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7-8 weeks (280-320 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Upon completion of the course, the student will have acquired the basic knowledge and skills to complete advanced electronic equipment maintenance training.

Instruction: Group-paced lectures and performance-oriented training in a combined classroom/laboratory setting cover basic electricity, AC/DC circuit analysis, linear power supplies, audio amplifiers, solid state devices, use of the basic test equipment, and preventive and corrective maintenance.

Credit Recommendation: In the upper-division baccalaureate category, 4 semester hours in AC/DC circuit analysis (1/98).

NV-1715-1866

Commercial Satellite Equipment Maintenance

Course Number: A-102-0396.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 8/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to define station keeping, understand task or functions of commercial satellites; describe the use of test equipment required for maintenance of a modem; define the maintenance policy for a FDM multiplexer; describe the physical interface between a spectrum analyzer and related external equipment; disassemble, repair, and reassemble a frequency exciter; describe the functional areas of a FM satellite receiver; and describe the physical interface between an up converter and related equipment.

Instruction: Group-paced lectures and laboratory exercises cover digital audio tape recorder, CODEX 3390 modulator/demodulator (modem), Firebird 6000 test set, spectrum analyzer, frequency exciters, and multiplexer/demultiplexer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic communications (nonvoice) (2/98).

NV-1715-1867

Subsurface Cryptologic Maintenance

Course Number: A-102-0405.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 20 weeks (800 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair subsurface cryptologic systems and equipment using prescribed documentation procedures and complete advanced circuit analysis to the authorized maintenance level.

Instruction: Lectures, demonstrations, and group-paced exercises cover subsurface cryptologic maintenance; radio frequency communications; receiver and converter theory; microelectronic theory including integrated circuits, digital logic, multiplexers/demultiplexers, etc; radio direction finder set, special receiver, and preventive and corrective maintenance for receivers; and soldering, electronic repair, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications, 3 in microelectronics, and 3 in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1868

Combat Direction Finding Operator

Course Number: A-231-0089.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 6 weeks (240 hours).

Exhibit Dates: 3/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a combat direction finding system.

Instruction: Group-paced lectures, demonstrations, and laboratory exercises cover the general, physical, functional, interface, and operational description of the data management subsystem; data processing systems; operations of the AN/SRS-1 combat direction finding system; communication and report writing; and cryptologic product management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer applications (2/98).

NV-1715-1869

Direct Support Operator

Course Number: A-231-0075.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (320 hours).

Exhibit Dates: 11/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply the principles, rules, and concepts to solve given problems and to perform assigned tasks on cryptologic fleet operation units afloat.

Instruction: Group-paced lectures, practical demonstrations, and laboratory exercises cover security, battle group organization, maritime command information strategy, ships' exploitation equipment, and fleet system orientation.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/98).

NV-1715-1870

Communications Signals Collection and Processing

Course Number: A-231-0450.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 19-20 weeks (700 hours).

Exhibit Dates: 7/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform the duties of operator/analyst and use selected electronic equipment to acquire, display, analyze, demodulate, demultiplex, identify, record, and report non-Morse signals in accordance with appropriate directives.

Instruction: Lectures, demonstrations, group-paced performance exercises, and laboratory activities cover mathematical topics on signed number, scientific notation, dimensional analysis, logarithms, and decibels; radio wave propagation and antenna selection; cryptologic non-Morse search operations; VHF/UHF; radio receivers; dynamic signal analyzer; operation of the digital sonagraph; introduction to the Tektronix 400 MHz oscilloscope; synthesizer/generation, frequency counter, and demodulator; and modulation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in mathematics, 3 in electronic communications, and 3 in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1871

Advanced High Frequency Direction Finding (HFDF) Operations

Course Number: A-231-0017.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 10/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate HFDF outstation at the apprentice level under normal conditions.

Instruction: Group-paced lectures cover the basic operation of the Universal M-8000; basic operation of the narrow band system, description of the screener control report panel, and operation of semiautomatic and automatic direction finding subsystem.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (2/98).

NV-1715-1872

High Frequency Direction Finding (HFDF) Operator

Course Number: A-231-0094.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8-9 weeks (329 hours).

Exhibit Dates: 6/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to define the terms and abbreviations applicable to high frequency direction finding (HFDF); prepare and interpret HFDF reports; define the system management and operational roles within the HFDF network; define the terms, abbreviations, and symbols used with the outstation communications subsystem (OCS) to support normal operation; and describe all major and associated components of the OCS.

Instruction: Group-paced lecture and laboratory exercises are used to provide the student with instruction on outstation operations and programs, high frequency direction finding and outstation communication subsystem.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/98).

NV-1715-1873

Battle Force ELINT Analyst

Course Number: A-231-0076.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8 weeks (280 hours).

Exhibit Dates: 2/95–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe radio telephone protocol and procedures; define the mission of the air warfare, undersea warfare, and mine warfare task; explain the tactical application of cryptologic information; state the function of the Office of Naval Intelligence; state the mission of cryptologic shore support activities; and list the platforms/systems capable of providing over the horizon targeting.

Instruction: Lecture and laboratory use the standard tactical receive equipment display computer to create, delete, merge, and maintain electronic intelligence on a target country using available resources.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/98).

NV-1715-1874

Combat Direction Finding Maintenance

Course Number: A-102-0350.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 11-12 weeks (465 hours).

Exhibit Dates: 10/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate a combat direction finding (CDF) system; perform organizational level maintenance; identify the significant physical features of controls, displays, and indicators located on the CDF system; align, adjust, and calibrate the CDF; and describe the operational characteristics and capabilities of the CDF system.

Instruction: Group-paced lectures, practical demonstrations, and laboratory work are course methods.

Credit Recommendation: In the vocational certificate category, 4 semester hours in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1875

Advanced Communications Signals Analysis

Course Number: A-232-0452.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 19 weeks (760 hours).

Exhibit Dates: 4/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to define terms associated with the UNIX operating system; explain UNIX file and directory architecture; demonstrate a basic understanding of the UNIX operating system; define the terms and abbreviations associated with advanced modulation formats, modems, digital communications system; perform analysis on global system for mobile communications; and understand networks protocols and configurations.

Instruction: Group-paced lectures, practical demonstrations, and laboratory work is used to train experienced non-Morse collection personnel to be subject matter experts in signal search, analysis, and development.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in electronic communications (nonvoice/Morse) (2/98).

NV-1715-1876

1. Cryptologic Technician Administrative, Class
2. Cryptologic Technician Administrative, Class A

Course Number: *Version 1:* A-510-0510. *Version 2:* A-510-0510.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 8-9 weeks (332 hours). *Version 2:* 8 weeks (320 hours).

Exhibit Dates: *Version 1:* 3/98–Present. *Version 2:* 11/94–2/98.

Learning Outcomes: *Version 1:* Before 11/94 see NV-1715-0400. Upon completion of the course, the student will be able to type 30 words per minute at 98 percent accuracy; identify the terms associated with computer system technology; state the purpose of computer system peripherals; identify the types of software associated with operating systems, applications, and network software (Windows 95); set up a stand-alone personal computer system; format a disk using Windows; and identify programs in the Microsoft Office package. *Version 2:* Upon completion of the course, the student will be able to use word processing microcomputer software; describe the procedures for using data base management microcomputer software applications in an official environment; describe office personnel, practices, and operations; prepare and process local letters/certificates of appreciation/commendation; receive, sort, and distribute incoming mail; type 30 words per minute; and manage office files.

Instruction: *Version 1:* This course includes group-paced lectures and laboratory experiences using a PC workstation and Windows 95 operating system/software. *Version 2:* This course includes group-paced instruction using interactive courseware and computer-based training, supported by lecture and laboratory periods with practical applications.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in computer applications (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures (2/98).

NV-1715-1877

High Frequency Direction Finding (HFDF) Maintenance

Course Number: A-102-0322.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 21 weeks (840 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the entire AN/FSQ-123 narrowband system and portions of the AN/FSQ-117 wideband system used for crosshair communications and direction finding. The student will also be able to perform preventive and corrective maintenance on DEC PDP-11 systems down to the lowest replaceable unit (LRU).

Instruction: This course consists of group-paced lectures, demonstrations, and laboratory exercises on preventive maintenance on the DEC PDP-11 computer system and peripherals; PDP-11/34 hardware/operation; preventive maintenance and troubleshooting of computer systems and peripherals to the LRU; DEC power supplies; systems operation and diagnostics; power/timing distribution; PDP-11 series instruction set; number systems; diagnostic programs; core memory and parity; bootstrap terminator; and various registers found in the PDP-11, CPU, real-time clock, and interface cards; and PDP-11 system operations and troubleshooting.

Credit Recommendation: In the vocational certificate category, 6 semester hours in electronic systems troubleshooting and maintenance (2/98); in the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (2/98).

NV-1715-1878

AN/WSQ-5 Operator
(AN/WSQ-5 Cluster Spectator Operator)

Course Number: A-233-0119.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 2 weeks (68 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the cluster spectator receiving system under supervision.

Instruction: Group-paced lecture and laboratory cover introduction to submarines and system capabilities of the AN/WSQ-5.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/98).

NV-1715-1879

Outstation Communications System
(Flaghoist) Maintenance

Course Number: A-102-0363.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (420 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to state the purpose of Uncrypt Flaghoist Vax equipment and associated DEC peripherals; describe the theory necessary to understand the performance of the system; and operate, maintain, and repair the Flaghoist System Micro Vax II computer and peripherals. The student will also be able to perform preventive and corrective maintenance on PDP-11 DEC systems down to the lowest replaceable unit.

Instruction: Group-paced lectures, laboratory experiences, and timed fault isolation exercises are used to prepare the student for preventive and corrective maintenance. The course also includes PDP-11 series instruction set, number systems, and diagnostic programs; core memory and parity, bootstrap terminator; and various registers found in the PDP-11; CPU, real-time clock, and interface cards; and PDP-11 system operations and troubleshooting. Topics covered include digital bus theory, bus devices, and multiprogramming environment; preventive and basic corrective maintenance of the disk drive and associated equipment; preventive and corrective maintenance of the MXT-1200 printer; and documented fault isolation and repair on the Flaghoist system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in computer systems troubleshooting and maintenance (2/98).

NV-1715-1880

Aviation Electronic Warfare Operator

Course Number: C-233-0120.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (280 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform the duties of an antisubmarine warfare operator.

Instruction: Group-paced lectures and exercises cover radar systems, including plotting codes and tactics, sonar and sonar operations, and fundamentals of oceanography.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in oceanography and 1 in radar systems (2/98).

NV-1715-1881

AN/BRD-7, AN/WYQ-1(V), AN/BRQ-1(V)
Combined Maintenance

Course Number: A-102-0128.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 7 weeks (288 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, troubleshoot, maintain, and repair the AN/BRQ-1 and AN/WYQ-1 systems.

Instruction: Lectures, group-paced activities, and laboratory activities cover receivers and their basic operation, preventive and corrective maintenance, advanced theory of operation, and troubleshooting.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1882

AN/WSQ-5(V) Cluster Spectator Combined
Maintenance

Course Number: A-233-0088.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 8-9 weeks (352 hours).

Exhibit Dates: 2/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair the cluster spectator system to the highest level supported by documentation.

Instruction: Group-paced lectures, demonstrations, and laboratory activities on basic operation of the AN/WSQ-5(V) cluster spectator, signal intercept file and signal work area, theory of the cluster spectator, theory and preventive maintenance, fault isolation and corrective maintenance of the control/ancillary equipment groups, and troubleshooting the system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1883

AN/WLR-18(V) Classic Salmon Combined
Maintenance

Course Number: A-233-0090.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 4 weeks (160 hours).

Exhibit Dates: 8/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to to maintain the AN/WLR-18(V) countermeasures receiving system.

Instruction: Group-paced lectures, demonstrations, and laboratory activities cover description of the classic Salmon system; basic operation of the receiver; preventive maintenance of the receiving system; basic corrective maintenance; types of signals, signal flow, sequential operation, and indicators; RF distribution group; and alignment and adjustment procedures for operator interface equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1884

Subsurface Cryptologic Maintenance Pipeline

Course Number: A-233-0089.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 20 weeks (800 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate, maintain, and repair the AN/WSQ-5(V) system, AN/BRQ-1 system, AN/WYQ-1 system, and AN/WLR-18(V) countermeasures receiving system.

Instruction: Group-paced lectures, demonstrations, and laboratory activities cover basic theory operation of the AN/WSQ-5(V) cluster spectator, signal intercept file, and signal work area; theory, fault isolation, and corrective and preventive maintenance of the control/ancillary equipment groups; operation and preventive and corrective maintenance of receivers; description of the Salmon system, including types of signals, signal flow, sequential operation, and indicators; RF distribution group; and alignment of operator equipment. This course consists of A-102-0128 (NV-1715-1881); A-233-0090 (NV-1715-1883); and A-233-0088 (NV-1715-1882).

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 8 semester hours in electronic systems troubleshooting and maintenance (2/98).

NV-1715-1885

Outboard Systems Maintenance

Course Number: A-102-0325.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 22-23 weeks (904 hours).

Exhibit Dates: 5/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on the outboard systems and units.

Instruction: This course includes lectures, group-paced activities, and laboratory activities on basic electronics and test equipment; troubleshooting, and maintenance of countermeasures receiving set; display circuitry and data processing, frequency measures, and backlog circuits; data processing set and data terminal set; VHF/UHF multicoupler and receiver circuitry; computer display set; and troubleshooting the entire system.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics, 3 in computer systems and organization, and 3 in computer systems troubleshooting and maintenance (2/98).

NV-1715-1886

Intermediate Communications Signals Analysis

Course Number: A-232-0451.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 19 weeks (760 hours).

Exhibit Dates: 3/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to define terms and abbreviations that are associated with pulse modulation; describe the encoding/decoding of PAM, PDM/PWM, and PCM; define terms that are associated with frequency division multiplexing; perform signal classification on most non-Morse signals; perform signal analysis using computer-based analysis techniques; define the purpose of multiplexing in communications; state the function of the quandary demodulator; describe the advantages/disadvantages of packet switching networks; describe the different types of communications architectures; describe the most common types of transmission protocols; define the basic operation of the codex 2340 modem; and define terms and abbreviations associated with amplitude, frequency, phase, component, and intensity modulation formats.

Instruction: This course consists of group-paced lectures and exercises covering the duties of the operator/analyst research in a position and use the tools of signal. The trainee is trained to use selected electronic equipment to acquire, display, and analyze non-Morse signals and to use tools of the signal analyst, with emphasis on computer-based analysis techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic communications (nonvoice/Morse) (2/98).

NV-1715-1887

Advanced Electronics Technical Core

Course Number: A-100-0139.

Location: Service School Command, Great Lakes, IL.

Length: 19 weeks (760 hours).

Exhibit Dates: 10/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to demonstrate a sound knowledge of basic electricity and basic electronics theory; identify, troubleshoot, and correct problems to the component level in a variety of electronic systems; use and interpret equipment technical manuals; operate and apply electronic test equipment; and display a knowledge of the planned maintenance system.

Instruction: The course presentation includes lectures, demonstration, group-paced performance activities, and laboratory exercises that include direct current theory and DC test equipment; alternating current theory and AC test equipment; semiconductor theory; amplifiers; solid state power supplies; shaping circuits; receiver fundamentals; soldering; digital devices; 386 microprocessors, ADP, and fiber optics; and electronic troubleshooting and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in DC and AC circuits, 3 in solid state electronics, 3 in digital principles, and 3 in communications (10/97).

NV-1716-0001

Dry Cleaning Specialist

Course Number: A-840-0010.

Location: Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 5/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use and handle cleaning solvents and materials, use and care for equipment used in dry cleaning operations; and demonstrate proper check-in and checkout procedures for customer garments.

Instruction: Students will learn from a combination of hands-on, visuals, lectures, and demonstrations. Topics covered include laundry and dry cleaning chemicals, equipment use, and safety inspection.

Credit Recommendation: In the vocational certificate category, 3 semester hours as an elective in dry cleaning/laundry (11/95).

NV-1717-0014

Leadership and Management Education and Training (LMET) for Leading Petty Officers

Course Number: A-500-0034.

Location: Human Resources Management Detachment, Rota, Spain; Various training centers, US.

Length: 2 weeks (70 hours).

Exhibit Dates: 1/90–3/90.

Objectives: To provide leading petty officers with modern concepts and methods for leadership development and human resource use.

Instruction: Course content covers concepts which maximize student growth in the areas of leadership development and motivational concepts. Topics include establishing authority, time management, methods of developing subordinates, self-motivation, employee discipline techniques, and managerial styles. Students are actively involved by role playing, model building, goal setting, and performance analysis.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in industrial management, industrial psychology, leadership development, or a management elective (11/81).

NV-1717-0015

Leadership and Management Education and Training (LMET) for Chief Petty Officers

(Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers)

Course Number: A-500-0036.

Location: Human Resources Management Detachment, Rota, Spain; Various training centers, US.

Length: 2 weeks (70-80 hours).

Exhibit Dates: 1/90–3/90.

Objectives: To provide leading chief petty officers with modern concepts and methods for leadership development and human resource use.

Instruction: Course content covers concepts which maximize student growth in the areas of leadership development and motivational concepts. Topics include establishing authority, time management, methods of developing subordinates, self-motivation, employee discipline techniques, and managerial styles. Students are actively involved by role playing, model building, goal setting, and performance analysis.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in industrial psychology, leadership development, or a management elective (12/89).

NV-1717-0016

Surface Warfare Split Tour Engineer Officer

Course Number: A-4H-0060.

Location: Surface Warfare Officer School Command, Newport, RI.

Length: 11-14 weeks (408 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To provide advanced engineering to unrestricted line officers who are enroute to engineer officer billets in steam propulsion ships.

Instruction: Through individualized instruction, officers are provided the necessary knowledge to effectively manage the engineering department of a naval ship. The course includes heat transfer and fluid flow, electrical theory and systems, main propulsion systems, auxiliary systems, damage control, water chemistry, automatic boiler controls, and engineering organization and management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic marine engineering and 2 in maintenance management (11/82).

NV-1717-0017

Surface Warfare Officer Basic

Course Number: A-4H-0118.

Location: Surface Warfare Officers School Command, Coronado, CA; Surface Warfare Officers School Command, Newport, RI.

Length: 17-18 weeks (674-688 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To prepare newly commissioned line officers for junior officer assignment in surface warfare units and to provide a performance-oriented foundation for promotion.

Instruction: This managerial course provides basic instruction in navigation, seamanship, and ship handling; external communications; steam diesel and gas turbine propulsion and auxiliary systems; damage control; inspection and safety; and naval ordnance. Also included are instruction in human resource management, correspondence, training, material management, engineering administration and operations, professional development, and leadership and management.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic seamanship or 3 in a technical elective (11/82); in the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in leadership development, industrial psychology, industrial management, or a management elective (11/82).

NV-1717-0018

Surface Warfare Officer Advanced Command

Course Number: A-4H-0111.

Location: Surface Warfare Officer School Command, Newport, RI.

Length: 6-9 weeks (320 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To prepare senior grade officers to command surface warfare units by providing fleet-oriented training.

Instruction: The course includes training in personnel leadership and management, inspection, supply management, safety, and seamanship. Technical topics briefly touched upon include nuclear weapons; navigation; communications; surveillance systems; and sonar, missile, or torpedo systems, including Tartar, Terrier, Seasparrow, ASROC, and Mk 46.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in ship management (11/82).

NV-1717-0019

Surface Warfare Officer Department Head

Course Number: A-4H-0107.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 18-24 weeks (735-780 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To prepare commissioned officers to perform leadership and and supervisory duties aboard ship.

Instruction: The training emphasizes departmental, system, and unit interdependence. The course includes theoretical, technical, and practical instruction pertinent to command-at-sea, including lectures and problem solving exercises in fundamentals of electricity, computers, fire control, explosives, launching systems, communications systems, intelligence, nuclear weapons, mathematics, physics, and high-pressure steam systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in physics (mechanics and thermodynamics), 2 in basic electricity, and 3 in basic marine engineering (11/82); in the upper-division baccalaureate category, 3 semester hours in industrial management, industrial psychology, leadership development, or a management elective (11/82).

NV-1717-0020

Surface Warfare Officers Advanced Executive Command

Course Number: A-4H-0112.

Location: Surface Warfare Officers School Command, Newport, RI.

Length: 6-7 weeks (280 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To train Navy personnel in shipboard operations and management.

Instruction: Classroom instruction and practical exercises cover shipboard operation and management, including maintenance management, seamanship, navigation, rules of the road, ship handling, cargo stowage, underway replenishment, ordnance, nuclear propulsion, and small craft operation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in ships operations and management or 3 in basic seamanship (11/82).

NV-1717-0021

Leadership Management Education and Training (LMET) Instructor

(Leadership Management Education and Training, Class C1)

Course Number: A-012-0045.

Location: Amphibious School, Little Creek, Norfolk, VA; Leadership and Organizational Effectiveness School, Millington, Memphis, TN.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–3/90.

Objectives: After 3/90 see NV-1717-0024. To provide selected enlisted and officer personnel with knowledge and skills necessary to instruct in a specific two-week Leadership Management Education course offered at US Navy schools and provide a general background in classroom instruction.

Learning Outcomes: Upon completion of the course, the student will be able to articulate modern principles of course design, practice techniques of creating a positive classroom environment, practice techniques of managing group learning, demonstrate feedback counseling and goal setting skills in a classroom setting, demonstrate practical sensitivity to EEO issues in a classroom, exhibit competence in negotiations and group process in the classroom setting, prepare teaching plans and other instructional materials, and evaluate classroom performance of peers and students.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in instructional strategies and teaching methods and 3 in practice teaching (2/85).

NV-1717-0023

Navy Leader Development Program (NAVLEAD) for Chief Petty Officers

Course Number: A-500-0036.

Location: Various locations, Wordwide.

Length: 1 week (40 hours).

Exhibit Dates: 10/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify the components which characterize motivation, supervisory and leadership skills, and personal skills which will increase effectiveness as a unit leader.

Instruction: Course includes lectures, class discussions, simulations, case studies, and daily logs to reinforce experiential learning which can be applied to a management setting. The course does not reenforce learning through written evaluation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in principles of supervision. Credit does not duplicate that in NV-1717-0025 (3/92).

NV-1717-0024

Leader Development NAVLEAD Instructor

Course Number: A-012-0045.

Location: Amphibious School, Little Creek, Norfolk, VA.

Length: 7-8 weeks (280-320 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Before 4/90 see NV-1717-0021. Upon completion of the course, the student will be able to use group process techniques to teach skills for supervision in the work setting.

Instruction: Lectures, demonstrations, media presentations, group learning, and writing are used to develop the discipline of supervision as it addresses psychological safety, adult learning, learning styles, stages of skill acquisition, experiential learning, goal setting, and behavior change through a competency-based approach. Note: resource reference material is dated.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in instructional strategies and teaching methods (3/92).

NV-1717-0025

Leader Development Program (NAVLEAD) for Leading Petty Officers

Course Number: A-500-0034.

Location: Various locations, Worldwide.

Length: 1 week (40 hours).

Exhibit Dates: 10/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify the components which characterize motivation, supervisory and leadership skills, and personal skills which will increase effectiveness as a unit leader.

Instruction: Course includes lectures, class discussions, simulations, case studies, and daily logs to reinforce experiential learning which can be applied to a management setting. The course does not reinforce learning through written evaluation. Stress management and ethics capstone this course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in principles of supervision. Credit does not duplicate that in NV-1717-0023 (3/92).

NV-1717-0026

Chief Warrant Officer/Limited Duty Officer (CWO/LDO) Leadership

(Basic Officer Leadership)

Course Number: P-1B-0007.

Location: Aviation Schools Command, Pensacola, FL.

Length: 2 weeks (61-79 hours).

Exhibit Dates: 6/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership including the use oral and written communication in professional relationships; the role of motivation, empowerment, and counseling in development of subordinate; and ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lectures, discussions, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-7C-0007, P-1B-0004, P-1B-0005, and P-1B-0006 (8/97).

NV-1717-0027

First Class Petty Officer Leadership

Course Number: P-500-0020.

Location: Aviation Schools Command, Pensacola, FL; Submarine Training Center Pacific, Yokosuka, Japan; Leader Training Unit, Rota, Spain; Trident Training Facility, Kings Bay, GA; Fleet Training Center, Mayport, FL; Leader Training Unit, Coronado, CA; Leader Training Unit, Little Creek, VA; Trident Training Facility, Bangor, Bremerton, WA; Service School Command, Great Lakes, IL; Submarine School, New London, Groton, CT.

Length: 2 weeks (62-78 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership including the use oral and written communication in professional relationships; the role of motivation, empowerment, and counseling in subordinate development; ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lectures, discussions, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-500-0021, and P-500-0025 (8/97).

NV-1717-0028

Chief Petty Officer Leadership

Course Number: P-500-0021.

Location: Aviation Schools Command, Pensacola, FL; Submarine Training Center Pacific, Yokosuka, Japan; Trident Training Facility, Kings Bay, GA; Fleet Training Center, Mayport, FL; Leader Training Unit, Coronado, CA; Leader Training Unit, Little Creek, VA; Trident Training Facility, Bangor, Bremerton, WA; Leader Training Unit, Rota, Spain; Service School Command, Great Lakes, IL; Submarine School, New London, Groton, CT.

Length: 2 weeks (76 hours).

Exhibit Dates: 6/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership including the use oral and written communication in professional relationships; the role of motivation, empowerment, and counseling in development of subordinates; and ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lectures, discussions, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-500-0020, and P-500-0025 (8/97).

NV-1717-0029

Second Class Petty Officer Leadership

Course Number: P-500-0025.

Location: Aviation Schools Command, Pensacola, FL; Submarine Training Center Pacific, Yokosuka, Japan; Trident Training Facility, Kings Bay, GA; Fleet Training Center, Mayport, FL; Leader Training Unit, Coronado, CA; Leader Training Unit, Little Creek, VA; Trident Training Facility, Bangor, Bremerton, WA; Leader Training Unit, Rota, Spain; Service School Command, Great Lakes, IL; Submarine School, New London, Groton, CT.

Length: 2 weeks (65-72 hours).

Exhibit Dates: 7/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership including the use oral and written communication in professional relationships; the role of motivation, empowerment, and counseling in development of subordinate; and ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lectures, discussions, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-500-0020, and P-500-0021 (8/97).

NV-1717-0030

Intermediate Officer Leadership

Course Number: P-7C-0023.

Location: Leader Training Unit, Coronado, CA; Leader Training Unit, Little Creek, VA; Submarine School, New London, Groton, CT; Surface Warfare Officer School, Newport, RI; Supply Corps School, Athens, GA.

Length: 2 weeks (77-78 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership, including the use oral and written communication, in professional relationships; the role of motivation, empowerment, and counseling in subordinate development; ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lecture, discussion, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-1B-0004, P-1B-0005, P-1B-0006, and P-7C-0039 (1/98).

NV-1717-0031

Basic Officer Leadership

Course Number: P-7C-0039.

Location: Naval Education and Training Center, Newport, RI; Leader Training Unit, Coronado, CA; Leader Training Unit, Little Creek, VA; Surface Warfare Officer School, Newport, RI; Supply Corps School, Athens, GA.

Length: 2 weeks (75-76 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership, including the use oral and written communication, in professional relationships; the role of motivation, empowerment, and counseling in subordinate development; ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lecture, discussion, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-7C-0023, P-1B-0004, P-1B-0005, and P-1B-0006 (1/98).

NV-1717-0032

Advanced Officer Leadership (XO)

Course Number: P-1B-0005.

Location: Command Leadership School, Newport, TI.

Length: 2 weeks (75 hours).

Exhibit Dates: 4/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership including the use oral and written communication in professional relationships; the role of motivation, empowerment, and counseling in development of subordinate; and ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lectures, discussions, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-7C-0039, P-1B-0004, P-1B-0005, and P-7C-0023 (1/98).

NV-1717-0033

Advanced Officer Leadership (Non-XO)

Course Number: P-1B-0006.

Location: Leader Training Unit, Little Creek, VA; Leader Training Unit, Coronado, CA.

Length: 2 weeks (75-76 hours).

Exhibit Dates: 4/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership including the use oral and written communication in professional relationships; the role of motivation, empowerment, and counseling in development of subordinate; and ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lectures, discussions, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in

P-1B-0004, P-1B-0005, P-7C-0022, and P-7C-0039 (1/98).

NV-1717-0034

Command Leadership

Course Number: P-1B-0004.

Location: Command Leadership School, Newport, TI.

Length: 2 weeks (75-76 hours).

Exhibit Dates: 4/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify basic principles of leadership, including the use oral and written communication, in professional relationships; the role of motivation, empowerment, and counseling in subordinate development; ways to manage human resources, teams, and stress to create a quality organizational climate.

Instruction: Lecture, discussion, exercises, interrogatories and questionnaires, and case studies and responses are used to cover the material.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision or 1 in leadership and 1 in business and professional communication. Credit duplicates that in P-1B-0005, P-1B-0006, P-7C-0039, and P-7C-0023 (1/98).

NV-1720-0003

Advanced Cryogenics Equipment Technician

Course Number: J-750-0485.

Location: Fleet Training Center Cryogenics School, Portsmouth, VA.

Length: 8-9 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to produce liquid nitrogen and liquid oxygen and handle, store, operate, repair, and maintain cryogenic systems.

Instruction: Classroom and practical exercises cover cryogenic equipment and systems.

Credit Recommendation: In the vocational certificate category, 5 semester hours in cryogenic refrigeration systems (3/89); in the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in cryogenic mechanical systems (3/89).

NV-1720-0004

A/M26U 16000 Hour Maintenance

Course Number: C-750-3213.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 3 weeks (120 hours).

Exhibit Dates: 10/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to complete selected scheduled maintenance on an expeditionary oxygen/nitrogen system at the intermediate maintenance level.

Instruction: Course covers micrometers, compressor maintenance, and liquefier maintenance. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1720-0005

A/M26U-5 Expeditionary Oxygen/Nitrogen System (EONS) Intermediate Maintenance Activity

Course Number: C-750-3212.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 4 weeks (160 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe basic cryogenics and operate, troubleshoot, and maintain an expeditionary oxygen/nitrogen system at the intermediate level.

Instruction: Course covers basic cryogenics, cryogenics hazards and safety precautions, first aid and fire fighting, and introduction to the expeditionary oxygen/nitrogen system. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/94).

NV-1720-0006

Cryogenic Equipment Technician

Course Number: J-750-0015.

Location: Fleet Training Center, Norfolk, VA.

Length: 17 weeks (645 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to produce liquid nitrogen and liquid oxygen and handle, store, operate, repair, and maintain cryogenic systems.

Instruction: Methods of instruction include lectures and hands-on exercise. Topics covered include cryogenic science, high- and low-pressure air compressors, oxygen and nitrogen storage and distribution systems, quality assurance, oxygen cleaning systems, refrigeration systems, oxygen/nitrogen generating plants, basic thermodynamic definitions and principles, and basic electrical safety.

Credit Recommendation: In the vocational certificate category, 1 semester hour in electrical safety and 3 in mechanical maintenance of pneumatic systems (11/95); in the lower-division baccalaureate/associate degree category, 3 semester hours in basic physics and 3 in cryogenic mechanical systems (11/95).

NV-1721-0001

Remote Sensor System for Physical Security, Class C1

Course Number: A-198-0030.

Location: Service School Command, Great Lakes, IL.

Length: 7 weeks (252 hours).

Exhibit Dates: 1/90–1/91.

Objectives: After 1/91 see NV-1721-0013. To train selected students to maintain the remote sensor system for physical security at all times and in all conditions.

Instruction: Lectures and practical exercises cover the operation, theory, and block-diagram analysis of three types of remote sensor security systems. Basic digital theory is covered as background information to repair the multiplexer and video monitor to the component level.

Credit Recommendation: In the vocational certificate category, 3 semester hours in security system maintenance (1/86).

NV-1721-0003

Noise and Vibration Measurement

Course Number: A-210-0013.

Location: Fleet Submarine Training Facility, Pearl Harbor, HI; Submarine Training Center, San Diego; Submarine Training Center, Charleston, SC.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–10/94.

Objectives: To train enlisted personnel to operate sound- and vibration-monitoring equipment.

Learning Outcomes: Upon successful completion of this course, the student will apply basic knowledge of submarine noise reduction, mechanical vibration, and measurement to the use of sound measurement equipment, analysis of frequency spectrum, dynamic balancing, and vibration isolation of noise-critical machinery. The course is presented through lectures and laboratory instruction in sound, vibration fundamentals, structure-borne noise equipment, and vibration isolation devices. Hands-on instruction covers dynamic balancing and mechanical overhaul of noise critical motors. Instruments studies include general radio sound analysis system, electronic strobotac, and sound level meter.

Credit Recommendation: In the vocational certificate category, 2 semester hours in vibration reduction and analysis (11/85).

NV-1721-0006

A-7A/B Attitude Heading and Reference System Intermediate Maintenance

Course Number: C-102-3793.

Location: Air Maintenance Training Detachment, Cecil Field, FL; Air Maintenance Training Detachment, Lemoore, CA.

Length: 2 weeks (60-80 hours).

Exhibit Dates: 1/90–3/92.

Objectives: To train personnel in the operation and maintenance of a specific attitude, heading, and reference system.

Instruction: Lectures and practical exercises cover an attitude, heading, and reference system (ASN-50), including introduction to the system and review of gyroscopic fundamentals; theory of the displacement gyro, amplifier power supply, compass adapter compensator, compass controller and switching rate gyro; attitude indicator coupler and attitude director indicator; and intermediate maintenance and test procedures.

Credit Recommendation: In the vocational certificate category, 2 semester hours in instrument maintenance (3/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in control systems maintenance (3/82).

NV-1721-0007

Opticalmen, Class A

Course Number: A-670-0018.

Location: Service School Command, Great Lakes, IL.

Length: Self-paced, 24 weeks (871 hours).

Exhibit Dates: 1/90–12/91.

Objectives: After 12/91 see NV-1721-0017. To train nonrated personnel as opticalmen in units of the fleet or in shore activities.

Instruction: Lectures and practical exercises cover the duties of opticalmen, including basic mathematics, hand tools and measuring instruments, drills and drilling machines, grinders, basic lathe operation, basic milling machine operation, maintenance and material management, fundamentals of optics, optical instrument components, optical instrument repair, lens cementing and painting, primary telescopes, and navigation instruments. Course includes basic electricity and blueprint reading.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in machine tool operation, 2 in physical optics, 1 in basic mathematics, 1 in basic circuit theory, and 1 in basic circuit laboratory (1/86).

NV-1721-0011

Noise Reduction/Structure Borne Monitoring (Noise and Vibration Monitoring System (NVMS))

Course Number: A-210-0019.

Location: Submarine Training Center, New London, Groton, CT; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Center, Charleston, SC; Submarine Training Facility, Charleston, SC; Submarine Training Facility, San Diego, CA.

Length: 2 weeks (79 hours).

Exhibit Dates: 1/90–3/93.

Learning Outcomes: Upon successful completion of the course, the student will apply basic knowledge of submarine noise reduction, mechanical vibration, and measurement to the use of sound measurement equipment, analysis of frequency spectrum, in-place dynamic balancing, and vibration isolation of noise critical machinery.

Instruction: The course is presented through lectures and laboratory instruction in sound, vibration fundamentals, structure-borne noise equipment, and vibration isolation devices. Hands-on instruction covers dynamic balancing and mechanical overhaul of noise critical motors. Instruments studied include general radio sound analysis system, electronic strobotac, and sound level meter.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to acoustics (7/87).

NV-1721-0012

1. Meteorological Equipment Maintenance, Class C1
2. Meteorological Equipment Maintenance, Class C1 USN

Course Number: *Version 1:* C-198-3899; C-198-2010. *Version 2:* C-198-2010.

Location: *Version 1:* Technical Training Unit, Keesler AFB, MS. *Version 2:* Naval Detachment, Chanute AFB, IL.

Length: *Version 1:* 12-13 weeks (491-492 hours). *Version 2:* 16-17 weeks (576 hours).

Exhibit Dates: *Version 1:* 10/93–Present. *Version 2:* 1/90–9/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate and maintain selected meteorological and oceanographic equipment with minimal supervision aboard ship and at naval shore activities. *Version 2:* Upon completion of the course, the student will be able to operate and maintain selected meteorological and oceanographic equipment with minimal supervision aboard ship and at naval shore activities.

Instruction: *Version 1:* Lectures and practical exercises cover logic circuits, the maintenance and repair of facsimile receivers, surface observation equipment, runway visibility equipment, weather radars, soldering, weather satellites, and weather data recorders. *Version 2:* Lectures and practical exercises cover logic circuits, the maintenance and repair of facsimile receivers, surface observation equipment, runway visibility equipment, weather radars, soldering, weather satellites, and weather data recorders.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, for Navy personnel only, 3 semester hours in electronic systems troubleshooting and maintenance and 3 in computer systems troubleshooting and maintenance; for Marine Corps personnel only, 2 semester hours in electronic systems troubleshooting and maintenance and 2 in computer systems troubleshooting and maintenance (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in electronic systems troubleshooting and maintenance and 4 in computer systems troubleshooting and maintenance (3/91).

NV-1721-0013

Electronic Security Systems Maintenance (ESSM), Class C

Course Number: A-101-0030; A-198-0030.

Location: Service School Command, Great Lakes, IL.

Length: 9 weeks (360 hours).

Exhibit Dates: 2/91–Present.

Learning Outcomes: Before 2/91 see NV-1721-0001. Upon completion of the course, the student will be able to operate, maintain, and troubleshoot electronic intrusion alarm security systems commonly used by the Navy to protect valuable resources.

Instruction: Lectures and performance exercises use meters and oscilloscopes in diagnosing mechanical trip sensors, ultrasonic motion detectors, magnetic sensors, capacitive sensors, microwave detection circuits, video systems, microprocessor-based intrusion detection systems, and private exchange telephone systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in security systems maintenance (9/97).

NV-1721-0014

KA-99A Camera and Camera Test Set Intermediate Level Maintenance

Course Number: C-670-3896.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 5/90–Present.

Learning Outcomes: Upon completion of the course the students will be able to explain basic photographic principles and terms; disassemble, clean, inspect, relubricate, and assemble an electronically-controlled camera; and troubleshoot and repair to the module level.

Instruction: Course methods include small lecture groups with supervised laboratory. Emphasis is placed on troubleshooting based on symptom diagnosis and module replacement.

Credit Recommendation: In the vocational certificate category, 3 semester hours in camera repair (12/92); in the lower-division baccalaureate/associate degree category, 1 semester hour in basic photographic principles and 1 in electronic systems troubleshooting and maintenance (12/92).

NV-1721-0015

KS-87D Camera Set Intermediate Maintenance

Course Number: C-198-3834.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, disassemble, troubleshoot (component level), and reassemble an electronically-controlled camera; student will also demonstrate knowledge of circuit theory.

Instruction: Small study groups with supervised laboratory on actual equipment are the methods of instruction. Emphasis is on troubleshooting using standard test equipment.

Credit Recommendation: In the vocational certificate category, 1 semester hour in camera repair (12/92); in the lower-division baccalaureate/associate degree category, 2 semester hours in electronic systems troubleshooting and maintenance (12/92).

NV-1721-0016

KS-153A Camera Intermediate Maintenance

Course Number: C-198-3836.

Location: Air Maintenance Training Group, Miramar, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 2/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to test, disassemble, troubleshoot, repair, and reassemble an electronically-controlled camera at the module level.

Instruction: Small group lectures and supervised laboratories are the methods of instruction. Emphasis is on troubleshooting by symptom diagnosis.

Credit Recommendation: In the vocational certificate category, 2 semester hours in camera repair (12/92); in the lower-division baccalaureate/associate degree category, 1 semester hour in electronic systems troubleshooting and maintenance (12/92).

NV-1721-0017

Opticalman, Class A

Course Number: A-670-0018.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 22 weeks (733 hours).

Exhibit Dates: 1/92–Present.

Learning Outcomes: Before 1/92 see NV-1721-0007. Upon completion of the course, the student will be able to perform organizational and intermediate level maintenance, under supervision, on small navigation instruments and binoculars and will be familiar with submarine periscope externals and hull packing.

Instruction: Lectures, demonstration, and hands-on laboratory exercises cover basic blueprint reading; basic mathematics; the care, use, setup, and operation of hand and machine tools; optical theory, including nomenclature, ray tracing, and lenses; and basic electric circuit theory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in machine tool operation, 2 in physical optics, 1 in basic health, 1 in basic electric circuits, and 1 in basic circuit laboratory (1/98).

NV-1721-0018

Instrumentman, Class A

Course Number: *Version 1:* A-670-0011. *Version 2:* A-670-0010.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: *Version 1:* 17-18 weeks (696 hours). *Version 2:* 17-18 weeks (580 hours).

Exhibit Dates: *Version 1:* 10/97–Present. *Version 2:* 1/90–9/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform organizational and intermediate level maintenance, under supervision, on instruments that measure pressure, temperature, speed, and torque. *Version 2:* Upon completion of the course, the student will be able to perform organizational and intermediate level maintenance, under supervision, on instruments that measure pressure, temperature, speed, and torque.

Instruction: *Version 1:* Lectures, demonstrations, and hands-on laboratory exercises cover the care and use of basic hand tools; basic mathematics; the basic theory of pressure-operated measuring equipment (Bourdon tubes, diaphragms, bellows, and piston), temperature-operated measuring equipment (bimetallic, PRT, and Bourdon tube), and mechanically-operated measuring equipment (centrifugal, photo cell, and torque); basic electric circuit theory; soldering methods; and procedures for handling mercury and combustible gases. *Version 2:* Lectures, demonstrations and hands-on laboratory exercises cover the care and use of basic hand tools; basic mathematics; the basic theory of pressure-operated measuring equipment (Bourdon tubes, diaphragms, bellows, and piston), temperature operated measuring equipment (bimetallic, PRT, and Bourdon tube), and mechanically operated measuring equipment (centrifugal, photo cell, and torque); basic electric circuit theory; soldering methods; and procedures for handling mercury and combustible gases.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in basic physics, 1 in basic arithmetic, 1 in basic electric circuits, 1 in basic circuit laboratory, and 2 in basic instrumentation (2/98). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in basic arithmetic, 1 in basic electric circuits, 1 in basic circuit laboratory, and 2 in basic instrumentation (1/93).

NV-1722-0008

Officer of the Deck-Basic
(Prospective Officer of the Deck)

Course Number: K-2E-2103.

Location: Fleet Training Center, San Diego, CA.

Length: 3 weeks (87-92 hours).

Exhibit Dates: 1/90–1/93.

Objectives: To provide basic preparation for the duties of an officer of the deck in port or underway.

Instruction: Lectures, problem solving, and laboratory experiences cover seamanship, navigation, and tactics including ground tackle; heavy weather seamanship; use of magnetic compass, buoys, and other navigation aids; navigation publications; use of maneuvering board; and voice radio procedures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic navigation and seamanship (1/83).

NV-1722-0011

Barge Ferry Pilot

Course Number: K-062-0012.

Location: Amphibious School, San Diego, CA.

Length: 2 weeks (125 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe all aspects of operation of the causeway section powered/side loadable warping tug barge ferry; assemble and disassemble a barge ferry; maneuver, beach, and moor the ferry; and conduct loading and unloading operations.

Instruction: Lectures using audio-visuals and practical applications cover the areas described above. Student must successfully complete a pretest, a progress test, and a final test to pass the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic piloting (3/92).

NV-1722-0012

Barge Ferry Coxswain

Course Number: K-063-0011.

Location: Amphibious School, San Diego, CA.

Length: 2 weeks (121 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the barge ferry and its communications equipment, direct all maintenance on the barge ferry system, and identify all aspects of barge ferry ancillary equipment.

Instruction: Classroom lectures and practical exercises cover the general theory of the barge ferry, its operation, and its subsystems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in basic piloting (3/92).

NV-1722-0013

Landing Craft Air Cushion Navigator

Course Number: K-193-0436.

Location: Amphibious School, San Diego, CA.

Length: 11 weeks (398 hours).

Exhibit Dates: 11/90–10/96.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of the craft, interpret the rules of the road, operate the craft under normal and special situations, and follow emergency procedures.

Instruction: Lectures and laboratories using visual aids and practical applications cover the general description of the craft, rules of the road, checklists, and craft operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in power boat operations (3/92).

NV-1722-0014

Landing Craft Air Cushion Operator

Course Number: K-062-0100.

Location: Amphibious School, San Diego, CA.

Length: 12 weeks (473 hours).

Exhibit Dates: 11/90–10/96.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of the craft, interpret the rules of the road, operate the craft under normal and special situations, and follow emergency procedures.

Instruction: Lectures and laboratories using visual aids and practical applications cover the general description of the craft, rules of the road, checklists, and craft operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in power boat operations (3/92).

NV-1722-0015

Assault Boat Coxswain

Course Number: K-062-0010.

Location: Amphibious School, Little Creek, Norfolk, VA; Mobile training, as required; Amphibious School, San Diego, CA.

Length: 2 weeks (112 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate all types of landing craft in a wide variety of surf conditions.

Instruction: Lectures and laboratories using films, models, and on-board training cover line handling, beach signals, rules of the road, aids to navigation, gyrocompass, vessel description and handling, dangers of surging surf, and beach and surf characteristics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in power boat operations (3/92).

NV-1722-0016

Landing Craft Air Cushion Engineer/
Assistant Operator

Course Number: K-652-0312.

Location: Amphibious School, San Diego, CA.

Length: 12 weeks (473 hours).

Exhibit Dates: 11/90–10/96.

Learning Outcomes: Upon completion of the course, the student will be able to describe the operation of the craft, interpret the rules of the road, operate the craft under normal and special situations, and follow emergency procedures.

Instruction: Lectures and laboratories using visual aids and practical applications cover the general description of the craft, rules of the road, checklists, and craft operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category-gory, 6 semester hours in power boat operations (3/92).

NV-1722-0017

International Hydrographic Management and Engineering

Course Number: S-8G-0500.

Location: Naval Oceanographic Office, Stennis Space Center, Bay St. Louis, MS.

Length: 26 weeks (600 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will apply fundamental skills to conduct a hydrographic survey (in the field) to collect data necessary for constructing (but not publishing) a nautical chart. The student will also have a conceptual grasp of the overall process of nautical charting and have acquired sufficient practical experience to lead the field party.

Instruction: The hydrographic training program of the naval oceanographic office is designed to give the student a working knowledge of hydrographic survey techniques and skills. The practical aspects of geodetic and hydrographic surveying, data reduction, processing, smooth-sheet and nautical chart production are taught in a real-time field laboratory setting. This is accomplished through use of a supervised student project that includes planning of a survey, documenting the plans by writing instructions, conducting the survey, processing the data, and producing a nautical chart.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 10 semester hours in hydrographic surveying (6/96).

NV-1723-0002

Machinery Repairmen, Class A

Course Number: A-702-0019.

Location: Service School Command, San Diego, CA.

Length: 10-11 weeks (400 hours).

Exhibit Dates: 1/90–5/91.

Objectives: After 5/91 see NV-1723-0019. To train enlisted personnel to perform as machinery repairmen.

Instruction: Lectures and practical exercises in machinery repair, including use of hand tools and measuring instruments; principles and applications of blueprint reading; mathematics; portable equipment; machine shop procedures; bench work; disassembly, repair, assembly, and testing; basic, intermediate, and advanced operations on drilling, shaping, turning, milling, grinding, sawing, and engraving machines; the fabrication of parts and repair of valves, and maintenance management.

Credit Recommendation: In the vocational certificate category, 6 semester hours in machine trades or machinery repair (5/82); in the lower-division baccalaureate/associate degree category, 3 semester hours in machine trades or machinery repair (5/82).

NV-1723-0010

Intermediate Level Maintenance Navigation Technician

(Navigation Technician Intermediate Level Maintenance)

Course Number: A-193-0311.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (104-120 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide naval personnel with the skills and knowledge to perform intermediate level maintenance on navigation subsystems.

Instruction: Lectures and practical exercises cover the appropriate administrative procedures for maintenance duties including the correct soldering and wire wrapping techniques needed to maintain the navigation subsystem.

Credit Recommendation: In the vocational certificate category, 2 semester hours in soldering and wire wrapping techniques (6/89).

NV-1723-0013

Hull Technician, Class A, Phase I/II

Course Number: A-700-0010; A-495-0035.

Location: Damage Control Training Center, Philadelphia, PA; Technical Training Center, Treasure Island, San Francisco, CA.

Length: 11 weeks (440 hours).

Exhibit Dates: 1/90–11/91.

Objectives: To train enlisted personnel in damage control techniques and in ship fitting and hull maintenance.

Instruction: The first three weeks contain lectures and practical exercises in hull and hull systems, casualty control, fire fighting, hull and pipe patching, characteristics of nuclear bursts, classification and detection of biological and chemical agents, shipboard decontamination, and use and care of oxygen breathing equipment. The final 8 weeks is devoted to lectures and practical exercises in ship fitting and hull maintenance, including basic tools and materials, oxyacetylene welding, manual arc welding, sheet metal layout and fabrication, shipboard piping systems, and environmental pollution control.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, for those students completing phase I, 2 semester hours in damage control and 1 in fire fighting. For those students completing phase II, 3 semester hours in welding processes and 1 in sheet metal fabrication (11/81).

NV-1723-0014

Underwater Hydraulic Tools

Course Number: A-433-0043.

Location: Mobile Diving Salvage School, Little Creek, VA; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: 2 weeks (75 hours).

Exhibit Dates: 1/90–1/97.

Objectives: To provide second class divers and above with advanced maintenance and tool techniques in the NAVSEA underwater hydraulic tool package.

Learning Outcomes: Upon successful completion of this course, the diver is prepared for assignment to ashore/afloat ship repair facilities to provide underwater ship repair. This includes in-depth study of the individual tools, their power sources, troubleshooting, and preventive maintenance actions. Hydraulic tools covered in the course include grinder, impact wrench, come-along, rope cutter, jack, and sump pump.

Credit Recommendation: In the vocational certificate category, 1 semester hour in mechanical laboratory (11/85).

NV-1723-0015

Machine Tool Operator

Course Number: A-702-0028.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Trident Training Facility, Kings Bay, GA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 3 weeks (119 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain lathes and milling machines.

Instruction: Lectures and laboratories cover lathes and milling machine operation and maintenance, including measuring instruments, center drilling, rough turning, tool bit grinding, taper turning, threading, knurling, and milling.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in manufacturing or mechanical technology (lathe and milling machine operation) (10/89).

NV-1723-0016

Advanced Auxiliary Equipment Package

Course Number: A-652-0136.

Location: Submarine School, New London, Groton, CT.

Length: 13 weeks (513 hours).

Exhibit Dates: 1/90–6/91.

Learning Outcomes: Upon completion of the course, the student will be able to weld, braze, and repair air conditioning and refrigeration systems.

Instruction: This is a pipeline course consisting of A-701-0064, Fuel Gas Welding, Brazing, and Cutting; A-701-0053, Shielded Metal Arc Welding (NV-1710-0115); A-702-0028, Machine Tool Operator (NV-1723-0015), and A-720-0030, Air Conditioning and Refrigeration (NV-1730-0011). See the individual exhibits for further information.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/89).

NV-1723-0017

1. Advanced Steelworker
2. Advanced Steelworker, Class C1

Course Number: *Version 1:* A-711-0018. *Version 2:* A-711-0018.

Location: *Version 1:* Construction Training Center, Gulfport, MS. *Version 2:* Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 13 weeks (512 hours). *Version 2:* 12 weeks (455 hours).

Exhibit Dates: *Version 1:* 3/94–Present. *Version 2:* 1/90–2/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to plan, estimate, and manage a project; perform advanced sheet metal layout and fabrication; bend and place reinforcing steel; splice wire rope and fiber line; erect pre-engineered building components; perform oxy-gas welding; perform shielded metal arc welding; and act as shop foreman. *Version 2:* Upon completion of the course, the student will be able to plan, estimate, and manage a project; perform advanced sheet metal layout and fabrication; bend and place reinforcing steel; splice wire rope and fiber line; erect pre-engineered building components; perform oxy-gas welding; perform shielded metal arc welding; and act as shop foreman.

Instruction: *Version 1:* Lectures, demonstrations, audiovisual, training aids, and practical experiences cover planning and estimating, metal fabrication, line splicing, reinforcement bending and placing, erection procedures, and welding operations. *Version 2:* Lectures, demonstrations, audiovisual, training aids, and practical experiences cover planning and estimating, metal fabrication, line splicing, reinforcement bending and placing, erection procedures, and welding operations.

Credit Recommendation: *Version 1:* In the vocational certificate category, 2 semester hours in applied mathematics (4/97); in the lower-division baccalaureate/associate degree category, 4 semester hours in planning, estimating, and scheduling in steel/metal fabrication; 8 in advanced welding; and 1 in technical mathematics (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 4 semester hours in steel/metal estimating, 3 in advanced sheet metal design/fabrication, 6 in advanced welding, and 2 in shop management (6/91).

NV-1723-0018

Steelworkers, Class A

Course Number: A-711-0015.

Location: Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: 10-11 weeks (372-410 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to read blueprints, perform sheet metal layout and fabrication; place reinforcing steel; erect preengineered metal buildings; use and care for fiber line; and use oxy-MAPP equipment for cutting, brazing, welding, and arc welding mild steel plates.

Instruction: Lectures and practical exercises cover blueprint reading, sheet metal design and fabrication, reinforcing steel placement, steel erection, and welding.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 3 in sheet metal design and fabrication, and 6 in welding (7/96).

NV-1723-0019

Machinery Repairman, Class A

Course Number: A-702-0019.

Location: Service School Command, San Diego, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 6/91–Present.

Learning Outcomes: Before 6/91 see NV-1723-0002. Upon completion of the course, the student will be prepared to use basic machine shop equipment, including lathes, milling machines, drill presses, grinders, and other common machine tools.

Instruction: Lectures and extensive practical exercises cover typical repair, maintenance, and overhaul of surface ship components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic machine shop theory and practice (11/93).

NV-1723-0020

Molder Journeyman, Class J

Course Number: A-790-0014.

Location: Service School Command, San Diego, CA.

Length: 12 weeks (480 hours).

Exhibit Dates: 7/93–Present.

Learning Outcomes: Upon completion of the course, the student will be prepared for advanced molder operations in foundries at the journeyman level.

Instruction: Lectures and practical laboratory experiences cover molding techniques, metal identification, metallurgy, and heat treatment practice at the advanced level.

Credit Recommendation: In the vocational certificate category, 6 semester hours in advanced metal casting theory and practice (11/93).

NV-1723-0021

Patternmaker, Class J

Course Number: A-790-0013.

Location: Service School Command, San Diego, CA.

Length: 9-10 weeks (400 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform advanced patternmaking and manage a pattern and foundry shop.

Instruction: By use of lectures, audiovisuals, demonstrations, and extensive practical hand-on learning experiences, the topics covered include pattern reproduction processes, stave/lagged pattern construction, segmental pattern construction, advanced pattern/layout construction, and double-walled machine part pattern construction and casting manufacture.

Credit Recommendation: In the vocational certificate category, 12 semester hours in advanced patternmaking (12/93); in the lower-division baccalaureate/associate degree category, 3 semester hours in shop management (12/93).

NV-1723-0022

Patternmaker/Molder, Class J

Course Number: A-790-0011.

Location: Service School Command, San Diego, CA.

Length: 6-7 weeks (240-280 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the student will be trained in both the patternmaker and molder rates.

Instruction: Lectures and practical laboratory experiences cover both molding and foundry practices and techniques, including safety, blueprint reading, casting, alloys, and metallurgy.

Credit Recommendation: In the vocational certificate category, 6 semester hours in advanced foundry theory and practice (11/93).

NV-1723-0023

Molder, Class A
(Molder, Class A1)

Course Number: A-790-0010.

Location: Service School Command, San Diego, CA.

Length: 15 weeks (600 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use hand tools and equipment necessary to melt and mold metal castings.

Instruction: Lectures and laboratory experiences cover the materials, principles, and processes used in metals and alloy casting.

Credit Recommendation: In the vocational certificate category, 3 semester hours in metal casting theory and processes and 9 in metal and alloy molding and casting laboratory (11/93).

NV-1723-0024

Patternmaker, Class A
(Patternmaker, Class A1)

Course Number: A-790-0012.

Location: Service School Command, San Diego, CA.

Length: 16 weeks (640 hours).

Exhibit Dates: 4/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to fabricate patterns for various machine parts and components and operate and maintain pattern shop equipment.

Instruction: By use of lectures, audiovisuals, demonstrations, and extensive hands-on practical exercises, the topics cover basic pattern construction, including use of hand and power tools (band saws, joiners, planers, etc.); types of fasteners; finishers; lumber and lumber measurement; parted pattern construction, including use of lathes, dowels, and carving tools; flanged fittings; and special pattern construction techniques, including lagged construction, concave sawing, segmental casting, and composite casting.

Credit Recommendation: In the vocational certificate category, 15 semester hours in patternmaking (11/93).

NV-1723-0025

Computer Numerically Controlled
Machinery, Class C

Course Number: A-702-0025.

Location: Service School Command, San Diego, CA.

Length: 8 weeks (300-320 hours).

Exhibit Dates: 12/92–Present.

Learning Outcomes: Upon completion of the course, the student will apply the basic principles of computer numerical control (CNC) and programming, including CNC lathes and milling machines, CAD/CAM software, and the production of precision repair parts.

Instruction: Lectures, demonstrations, and laboratory experience in CNC machines, programming, and personal computer-based software in CAD/CAM.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in machine tool CNC theory and programming and 4 in machine tool CNC advanced laboratory (11/93).

NV-1724-0001

Heat Treatment of Metals, Class C

Course Number: A-702-0021.

Location: Service School Command, San Diego, CA.

Length: 7 weeks (234-280 hours).

Exhibit Dates: 1/90–12/92.

Objectives: After 12/92 see NV-1724-0014. To train personnel as heat treatment specialists.

Instruction: Lectures and practical exercises cover the heat treatment of metals, including properties of metals, metal alloy systems, identification and classification of metals, corrosion, and surface treatment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in physical metallurgy and 3 in heat treating laboratory (5/82).

NV-1724-0003

NONDESTRUCTIVE TESTING OF METALS
ULTRASONIC THICKNESS INSPECTION,
CLASS C1

Course Number: A-701-0046.

Location: Service School Command, San Diego, CA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train naval personnel to be ultrasonic thickness and banding inspectors.

Instruction: Course includes instruction in the theory of ultrasonics, wave modes, equipment-transducers and flow detectors, documents and standards, thickness and bonding readings, and glass reinforced plastics.

Credit Recommendation: In the vocational certificate category, 1 semester hour in ultrasonic nondestructive testing (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in ultrasonic quality control (5/82).

NV-1724-0004

NONDESTRUCTIVE TESTING OF METALS
ULTRASONIC SILVER BRAZE INSPECTION,
CLASS C1

Course Number: A-701-0034.

Location: Service School Command, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train naval personnel in ultrasonic silver braze inspection.

Instruction: Classroom instruction and laboratory exercises cover the theory of ultrasonic wave technology to be used for nondestructive testing, including wave theory, equipment calibration, transducers, and flaw detection as applied to brazed joints.

Credit Recommendation: In the vocational certificate category, 2 semester hours in ultrasonic nondestructive testing (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in ultrasonic quality control (5/82).

NV-1724-0005

NONDESTRUCTIVE TESTING OF METALS
ULTRASONIC SHEARWAVE INSPECTION,
CLASS C1

Course Number: A-701-0047.

Location: Service School Command, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in the theory, application, and techniques required for ultrasonic shearwave inspection.

Instruction: Course covers theory of the generation, attenuation, and reflections of ultrasonic wave modes including the advantages and limitations of ultrasonic testing and operation of ultrasonic shearwave equipment to detect, evaluate, and record weld discontinuities in accordance with written procedures and acceptance standards.

Credit Recommendation: In the vocational certificate category, 2 semester hours in ultrasonic sheer wave nondestructive testing (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in quality control ultrasonic shearwave inspection (5/82).

NV-1724-0006

NONDESTRUCTIVE TESTING OF METALS VISUAL,
MAGNETIC PARTICLE AND LIQUID
PENETRANTS OPERATOR/INSPECTOR

Course Number: A-701-0033.

Location: Service School Command, San Diego, CA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–12/92.

Objectives: After 12/92 see NV-1724-0011. To train naval personnel in the theory and application of nondestructive testing of materials.

Instruction: Course includes inspection of weld zones by visual, magnetic particle, and liquid penetrant methods. Also covers instruction in basic magnetic theory and welding techniques.

Credit Recommendation: In the vocational certificate category, 3 semester hours in nondestructive testing (5/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in quality control in visual metals, magnetic particles, and liquid penetrants (5/82).

NV-1724-0008

NONDESTRUCTIVE TESTING OF METALS EDDY
CURRENT INSPECTION, CLASS C1

Course Number: A-701-0050.

Location: Service School Command, San Diego, CA.

Length: 2 weeks (68 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in the theory, application, and techniques required for eddy current inspection.

Instruction: Course includes electrical theory of the generation and distribution of eddy currents including the advantages and limitations of eddy current testing, operation of eddy current crack detection equipment on ferrous welds in accordance with written procedures and acceptance standards, and operation of eddy current equipment to detect and evaluate dealloying in bronze castings in accordance with written procedures and acceptance standards.

Credit Recommendation: In the vocational certificate category, 1 semester hour in nondestructive testing (5/82); in the lower-division baccalaureate/associate degree category, 1 semester hour in quality control (5/82).

NV-1724-0009

NONDESTRUCTIVE TESTING OF METALS
RADIOGRAPHIC OPERATOR

Course Number: A-701-0032.

Location: Service School Command, San Diego, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train personnel in the theory, application, and techniques required for radiographic inspection.

Instruction: Lectures and practical exercises cover the theory of the generation and exposure effects of X-rays and gamma-rays and film exposure and development techniques according to acceptable standards.

Credit Recommendation: In the vocational certificate category, 3 semester hours in radiographic nondestructive testing (5/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in radiographic quality control and 1 in photographic laboratory (5/82).

NV-1724-0010

RADIOGRAPHIC OPERATOR/INSPECTOR

Course Number: A-701-0057.

Location: Service School Command, San Diego, CA.

Length: 10 weeks (400 hours).

Exhibit Dates: 1/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform radiographic inspection of welded metal components and castings.

Instruction: Group-paced lessons include lectures, questions, and practical exercises. Written responses are required of all students.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radiographic testing of metal components (11/93).

NV-1724-0011

NONDESTRUCTIVE TESTING OF METALS, MAGNETIC
PARTICLES, AND LIQUID PENETRANTS
OPERATOR/INSPECTOR

Course Number: A-701-0033.

Location: Service School Command, San Diego, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Before 1/93 see NV-1724-0006. Upon completion of the course, the student will be able to perform visual, magnetic particle, and liquid penetrant inspections of welded materials and research inspection and qualification requirements of the above inspection techniques.

Instruction: By use of lectures, audiovisuals, demonstrations, and by extensive practical hands-on learning experiences, topics covered are introduction to nondestructive testing, visual inspection techniques, liquid penetrant inspection techniques, magnetic particle inspection techniques, inspection techniques, and qualification requirements.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in visual, magnetic particle, and liquid penetrant inspection by nondestructive methods (11/92).

NV-1724-0012

NONDESTRUCTIVE TESTING OF METALS
RADIOGRAPHIC INSPECTOR

Course Number: A-701-0035.

Location: Service School Command, San Diego, CA.

Length: 4-5 weeks (200 hours).

Exhibit Dates: 1/90–1/98.

Learning Outcomes: Upon completion of the course, the student will be able to perform radiographic inspections.

Instruction: By use of lectures, audiovisuals, demonstrations, and extensive practical hand-on learning experiences, topics covered include radiographic theory, function of X-ray equipment, characteristics of X-rays and gamma rays, processing of X-ray film, weld defects, qualification and inspection requirements, and file interpretation.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in radiographic testing of metal welds (11/93).

NV-1724-0013

Ultrasonic/Eddy Current Inspector

Course Number: A-701-0058.

Location: Service School Command, San Diego, CA.

Length: 9 weeks (360 hours).

Exhibit Dates: 5/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply the principles of ultrasonic and eddy current inspection to welded ferrous metal components.

Instruction: Lectures and laboratory exercises cover basic principles, test methodology, ultrasonic wave theory, energy reflections, flaw detection, ultrasonic test equipment, eddy current theory and testing, and phase analysis testing equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in nondestructive testing of welded metal components (11/93).

NV-1724-0014

Heat Treatment of Metals

Course Number: A-702-0021.

Location: Service School Command, San Diego, CA.

Length: 7 weeks (250 hours).

Exhibit Dates: 1/93–Present.

Learning Outcomes: Before 1/93 see NV-1724-0001. Upon completion of the course, the student will be able to identify metals and mechanical properties of metals, test the properties of metals, and heat treat ferrous metals.

Instruction: Course covers heat treatment of metals, chemical metallurgy of ferrous metals, identification of metals, atomic and crystalline structure of metals, chemical metallurgy, corrosion and corrosion prevention, and heat treatment of ferrous and nonferrous metals.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in physical metallurgy and 3 in heat treatment of metal components (10/93).

NV-1726-0001

Shipboard Barber

Course Number: A-840-0013.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 4/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply the basic principles of sanitation and hair cutting procedures.

Instruction: The course includes lectures, demonstrations, laboratories, and performance exercises in grooming, sanitation, skin conditions, customer relations, hair cutting, and basic shop management and operations.

Credit Recommendation: In the vocational certificate category, 3 semester hours in barber/cosmetology (11/95).

NV-1728-0006

Aircraft Firefighting and Rescue, Class A1

Course Number: C-780-2010.

Location: Air Technical Training Center, Memphis, Millington, TN.

Length: 3-4 weeks (120-160 hours).

Exhibit Dates: 1/90–9/95.

Objectives: To train enlisted personnel who have backgrounds in aviation fundamentals to perform as aviation crash crewmen.

Instruction: Lectures and practical exercises cover the functions of aviation crash crewmen, including theory of fire and fire extinguishing, aircraft familiarization, mobile fire fighting equipment, and crash rescue and fire fighting techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in fire fighting (9/89).

NV-1728-0009

Damage Controlman, Class A School

Course Number: A-495-2060.

Location: Technical Training Center, Treasure Island, San Francisco, CA.

Length: 8 weeks (300 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to provide training to promote effective shipboard team member participation in damage control activities.

Instruction: Lectures and laboratory exercises provide knowledge of shipboard systems, identification and communication of damage control conditions, and skill development in effective and safe damage control procedures including fire fighting and biological and chemical decontamination.

Credit Recommendation: In the vocational certificate category, 3 semester hours in decontamination technology (8/89); in the lower-division baccalaureate/associate degree category, 4 semester hours in fire technology and 2 in shipboard systems (8/89).

NV-1728-0011

Damage Control Assistant

Course Number: A-4G-0010; A-4G-0011.

Location: Control Training Center, Treasure Island, San Francisco, CA; Control Training Center, Philadelphia, PA.

Length: 6 weeks (220 hours).

Exhibit Dates: 1/90–1/97.

Objectives: To train officers to be damage control officers.

Instruction: Course includes lectures in fire prevention and fire fighting techniques, including extinguishing random fires, shipboard fire prevention, operation of oxygen breathing apparatus, and other fire fighting equipment; practical damage control, including underwater damage repair, plugging and patching, and damage control battle organization; and nuclear, biological, and chemical warfare defense operations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in ship engineering and 1 in fire prevention (7/87).

NV-1728-0019

Aviation Boatswain's Mate Handling, Class A1 (Sea Track)

Course Number: C-822-2011.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 2-3 weeks (95 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to assist in aircraft ground maneuvering and assist in fire fighting with direct supervision at sea.

Instruction: Course includes lectures and performance exercises in aircraft ground maneuvering and fire fighting techniques at sea.

Credit Recommendation: In the vocational certificate category, 1 semester hour in heavy equipment operation (fire fighting) (6/87); in the lower-division baccalaureate/associate degree category, 1 semester hour in aircraft ground handling, 1 in fire fighting principles, and 1 in industrial safety (6/87).

NV-1728-0020

Aviation Boatswain's Mate Handling, Class A1

(Aviation Boatswain's Mate Aircraft Handling, Class A1)

Course Number: C-822-2010.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 5-6 weeks (224 hours).

Exhibit Dates: 1/90–7/93.

Learning Outcomes: After 7/93 see NV-1704-0417. Upon completion of the course, the student will be able to assist in aircraft ground maneuvering and assist in fire fighting with direct supervision on shore or at sea.

Instruction: Lectures and performance exercises cover aircraft ground maneuvering and fire fighting techniques.

Credit Recommendation: In the vocational certificate category, 1 semester hour in heavy equipment operation (fire fighting) (6/87); in the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft ground handling, 1 in fire fighting principles, and 1 in industrial safety (6/87).

NV-1728-0021

Navy Security Guard, Class C1

Course Number: A-830-0011.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 4 weeks (181 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will display knowledge of patrolling assigned sector; qualify in weapons, firearms, and self-defense techniques; conduct preliminary investigations; complete and file police reports; operate patrol vehicle; perform physical security, loss prevention, and crime prevention; respond to calls for police service; and become familiar with military code of justice.

Instruction: Topics covered are patrol techniques, vehicle operations, felony stops, report writing/forms, apprehensions and restraints, crisis intervention, combating terrorism, crime prevention/loss prevention, defensive tactics, weapons firing, and emergency driving procedures.

Credit Recommendation: In the vocational certificate category, 1 semester hour in physical training and weaponry (8/87); in the lower-division baccalaureate/associate degree category, 3 semester hours in patrol procedures (8/87).

NV-1728-0023

SENIOR ENLISTED DAMAGE CONTROL

Course Number: *Version 1:* A-495-2055. *Version 2:* A-495-2055.

Location: *Version 1:* Fleet Training Center, San Diego, CA. *Version 2:* Technical Training Center, Treasure Island, San Francisco, CA; Damage Control Training Center, Philadelphia, PA.

Length: *Version 1:* 6-7 weeks (264 hours). *Version 2:* 10 weeks (400 hours).

Exhibit Dates: *Version 1:* 10/94–Present. *Version 2:* 1/90–9/94.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to operate and maintain all equipment in the areas of damage control; fire fighting; chemical, biological, and radiological (CBR) defense; nuclear weapons incidents; ship stability and buoyancy; and gas-free engineering. Course also includes planning, managing, conducting, and critiquing shipboard training programs in damage control.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and laboratory exercises cover instructor training, damage control organization, stability and buoyance, CBR defense, nuclear weapons and accidents/incidents, fire fighting, emergency hull repair, practical damage control and damage control maintenance, and performing as fire marshal/gas-free engineer.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the vocational certificate category, 2 semester hours in industrial safety (8/89); in the lower-division baccalaureate/associate degree category, 2 semester hours in advanced fire technology and 1 in instructional methods (8/89).

NV-1728-0024

RESERVE LEGALMAN, PHASE 1

Course Number: *Version 1:* S-512-0011. *Version 2:* S-512-0011.

Location: Naval Justice School, Newport, RI.

Length: *Version 1:* 2 weeks (68 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 5/96–Present. *Version 2:* 1/91–4/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to prepare and process litigation documents regarding offense and preliminary inquiries. *Version 2:* Upon completion of the course, the student will be able to process reports of offenses and preliminary inquiries.

Instruction: *Version 1:* Instruction consists of lectures, fact-finding situations, videotape, and classroom exercises in the field of litigation. *Version 2:* Methods include lectures, testing, fact-finding scenarios, and videotapes.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in litigation (7/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (12/91).

NV-1728-0025

RESERVE LEGALMAN, PHASE 2

Course Number: *Version 1:* S-512-0012. *Version 2:* S-512-0012.

Location: Naval Justice School, Newport, RI.

Length: *Version 1:* 2 weeks (68 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 8/96–Present. *Version 2:* 1/91–7/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to prepare legal documents in the area of litigation, including prehearing, hearing, and posthearing actions and use appropriate computer technology in such work. *Version 2:* Upon completion of the course, the student will be able to assist in preparing legal documents in the areas of summary courts-martial, posttrial review action and promulgation, and posttrial service record entries.

Instruction: *Version 1:* Instruction consists of lectures, fact-finding situations, videotapes, and computer training activities in the area of litigation. *Version 2:* Methods include lectures, testing, fact-finding scenarios, and videotapes.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in litigation and 2 in introduction to computers (7/97). *Version 2:* Credit is not recommended because of the military-specific nature of the course (12/91).

NV-1728-0026

RESERVE LEGALMAN, PHASE 3

Course Number: S-512-0013.

Location: Naval Justice School, Newport, RI.

Length: 2 weeks (68-80 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to use audio recording equipment and word processing software to prepare records of courts-martial.

Instruction: Methods include lectures, testing, dictation and transcription, and videotapes.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/97).

NV-1728-0027

1. LEGALMAN ACCESSION
2. LEGALMAN

Course Number: *Version 1:* S-512-0010. *Version 2:* S-512-0010.

Location: Naval Justice School, Newport, RI.

Length: *Version 1:* 9 weeks (310 hours). *Version 2:* 9 weeks (329 hours).

Exhibit Dates: *Version 1:* 10/96–Present. *Version 2:* 1/91–9/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to function as paralegal in a military setting. *Version 2:* Upon completion of the course, the student will be able to prepare and process nonjudicial punishment documents, convening orders, courts-martial, JAG investigations, line of duty/misconduct investigations, administrative discharges, and claims, using computer software, proper legal terminology, and legal research.

Instruction: *Version 1:* A combination of classroom instruction, practical exercises, examinations, and mock trials provides opportunities to prepare and process nonjudicial punishment documents, convening orders, courts-martial, JAG investigations, line of duty/misconduct investigations, administrative discharges, and claims. Student uses computer software, proper legal terminology, legal research, and English grammar and composition. *Version 2:* Lectures, videotapes, mock nonjudicial punishments, mock trials, and practical exercises cover preparation of legal documents and other paralegal duties.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in litigation, 2 in introduction to computers, 1 in introduction to paralegalism, 1 in legal research and writing, and 3 in English composition (7/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in legal research and writing; 1 in introduction to paralegalism; 1 in microcomputer applications; and 3 in legal ethics, interviewing, and investigation (12/91).

NV-1728-0028

LEGAL CLERK

Course Number: S-512-0009.

Location: Naval Justice School, Newport, RI.

Length: 2 weeks (68-70 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to prepare and process documents regarding nonjudicial punishments.

Instruction: Lectures and practical exercises cover unauthorized absence, premast forms, postmast forms, postmast entries laboratory, and summary courts-martial laboratory.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/97).

NV-1728-0029

LEGAL OFFICER

Course Number: *Version 1:* S-5F-0014. *Version 2:* S-5F-0014.

Location: *Version 1:* Naval Justice School Detachment, Norfolk, VA; Naval Justice School Detachment, San Diego, CA; Naval Justice School, Newport, RI. *Version 2:* Naval Justice School, Newport, RI.

Length: *Version 1:* 4 weeks (120 hours). *Version 2:* 4 weeks (135 hours).

Exhibit Dates: *Version 1:* 1/97–Present. *Version 2:* 1/91–12/96.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to apply principles of administrative law, military rules of evidence, military law, and military court procedures and identify issues in a given factual situation. *Version 2:* Upon completion of the course, the student will be able to apply principles of military rules of evidence, military law, and military court procedures and identify issues in a given factual situation.

Instruction: *Version 1:* Course methods include a combination of classroom instruction, practical exercises and examinations. *Version 2:* Lectures, mock trials, and practical exercises cover the skills and duties of a professional paralegal. Course includes court procedures; an in-depth study of criminal, civil, and military law; prosecution and judgement services; and legal advising.

Credit Recommendation: *Version 1:* In the upper-division baccalaureate category, 3 semester hours in administrative laws and procedures, 3 in criminal law and procedures, and 1 in the law of evidence (7/97). *Version 2:* In the upper-division baccalaureate category, 3 semester hours in criminal law and 3 in laws of evidence and court procedures (12/91).

NV-1728-0030

Senior Legalman

Course Number: S-512-0014.

Location: Naval Justice School, Newport, RI.

Length: 3 weeks (102 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to leader, supervise, and manage a legal office by applying the principles of office management to budgeting, human resources, office systems, computer systems, and administrative services and operations.

Instruction: Lectures, videotapes, and seminar groups are the forms of instruction.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in law office management and 1 in computer applications (12/91).

NV-1728-0031

Navy Master at Arms

Course Number: A-8-95C42-N; 8-95-C42-N; A-831-001.

Location: Navy Detachment, Military Police School, Ft. McClellan, AL.

Length: 10 weeks (332 hours).

Exhibit Dates: 1/90–7/90.

Objectives: After 7/90 see NV-1728-0033. To provide personnel assigned to master-at-arms rating with a working knowledge of duties and responsibilities of the position.

Instruction: Major areas of instruction include physical security, law enforcement activities, principles of confinement, law and evidence, crime prevention, drug control, information gathering, and maintaining order.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal evidence, 3 in interviewing and interrogating, 3 in correctional procedures, and 2 in drug awareness (6/85); in the upper-division baccalaureate category, 3 semester hours in field experience/criminal justice internship (6/85).

NV-1728-0033

Navy Master at Arms, Class A

Course Number: 8-95-C42-N; A-830-0001.

Location: Construction Training Center Detachment, Ft. McClellan, AL.

Length: 7 weeks (200-275 hours).

Exhibit Dates: 8/90–Present.

Learning Outcomes: Before 8/90 see NV-1728-0031. Upon completion of the course, the student will be able to provide personnel assigned to the master-at-arms rating with a working knowledge of the duties and responsibilities of the position.

Instruction: Major lecture hours include physical security, crime scenes, drug abuse, legal evidence, interviewing, and maintaining order. Weapons proficiency is included.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of investigation and 1 in physical security (6/92).

NV-1728-0034

Master at Arms, Class C

Course Number: A-830-0018.

Location: Construction Training Center Detachment, Ft. McClellan, AL.

Length: 2 weeks (80 hours).

Exhibit Dates: 3/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to secure a crime scene, investigate a criminal incident, interview and interrogate witnesses and suspects, and complete physical security measures for both civilian and military areas.

Instruction: Lectures, demonstrations, and performance exercises cover physical security measures and administration, crime prevention program, and crime scene integrity.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in physical security and 2 in principles of investigation (6/92).

NV-1728-0035

Corrections Specialist
(Correctional Specialist)

Course Number: A-831-0001.

Location: Naval Institute of Correctional Administration, Ft. McClellan, AL.

Length: 5 weeks (192 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have a working knowledge of the principles, theories, and practices required for the administration, operation, and supervision of US Navy brigs and will have a general understanding of military corrections.

Instruction: Lectures, media presentations, and exercises cover human behavior and communication skills required to control prisoners. Course includes study of physical security, legal cases, prisoner processing, report writing, substance abuse, contraband, special prisoners, and disciplinary measures.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in correctional procedures and 3 in correctional supervision (6/92).

NV-1728-0036

Marine Air-Ground Task Force
Interrogation of Prisoners of War

Course Number: J-241-2015; OBS.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 5 weeks (243 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to conduct effective interrogations of prisoners of war in according the Geneva convention and the Law of Land Warfare.

Instruction: The course consists of lectures on interrogation techniques, processing information, and the Geneva Convention and Law of Land Warfare; practical training on interrogation techniques; and a field exercise.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in criminal justice. This does not duplicate credit recommended for NV-1728-0037 and NV-1728-0038 (9/94).

NV-1728-0037

Interrogation of Prisoners of War, Reserve,
Phase 1

Course Number: N46L92D; J-241-2016.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (78-79 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be skilled in the processes of questioning, map tracking, approaches, interrogation, and report writing.

Instruction: This course consists of lectures on tactical interrogation, interrogation duties, the Geneva convention, and Law of Land Warfare. There is a performance examination.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in criminal justice (9/94).

NV-1728-0038

Interrogation of Prisoners of War, Reserve,
Phase 2

Course Number: J-241-2017; L9E.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (91-92 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to conduct tactical interrogations, interrogate noncooperative sources, and write reports.

Instruction: Lectures cover tactical interrogation, report writing, and interrogation of noncooperative sources.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in criminal justice in addition to the credit granted for phase I (NV-1728-0037) (9/94).

NV-1728-0039

Marine Air-Ground Task Force
Counterintelligence, Reserve, Phase 1

Course Number: J-244-2961; HEV.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (89 hours).

Exhibit Dates: 2/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform activities in counterintelligence, terrorism, and noncombatant evacuation operations.

Instruction: Lectures and practical exercises cover counterintelligence, terrorism, photography, and noncombatant evacuation. Although this course emphasizes activities in a postexpeditionary period, it does contain some police/security techniques.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in criminal justice (9/94).

NV-1728-0040

MARINE AIR-GROUND TASK FORCE COUNTERINTELLIGENCE, RESERVE, PHASE 2

Course Number: J-244-2962.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (71-72 hours).

Exhibit Dates: 6/94–Present.

Learning Outcomes: This is a continuation of Phase 1. Upon completion of the course, the student will be able to interview, interrogate, and conduct MIA investigation and debriefing.

Instruction: Lectures and performance exam cover planning counterintelligence activities, conducting investigations, interrogations, elucidation, debriefings, and interviews; preparation of reports; and a performance examination.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in criminal justice in addition to the credit recommendation for phase 1 (9/94).

NV-1728-0041

MARINE AIR-GROUND TASK FORCE COUNTERINTELLIGENCE, RESERVE, PHASE 3

Course Number: J-244-2963.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 7/94–Present.

Learning Outcomes: Upon completion of the course, the student will develop skills in HUMINT investigations and intelligence reports in an expeditionary and follow-on environment.

Instruction: The course has lectures on planning and conducting counterintelligence operations and monitoring, reviewing, and reporting counterintelligence information.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in criminal justice in addition to the credit recommended for phases 1 and 2 (9/94).

NV-1728-0042

COUNTERNARCOTICS BASIC INTELLIGENCE

Course Number: J-243-0996.

Location: Navy and Marine Corps Intelligence Training Center, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/91–10/92.

Learning Outcomes: Upon completion of the course, the student will be able to function with law enforcement officers and military personnel in counternarcotics intelligence activities; analyze data available from other agencies; and plan, development, coordinate, and disseminate information.

Instruction: Lectures, discussion, laboratories, and practical exercises cover geography and history of narcotics, drug threat, legal issues, national policy, information systems, detection, and monitoring. The student will be knowledgeable in narcotic production intelligence, security and operation, national drug policy, and legal constraints.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in drug interdiction (9/94).

NV-1728-0043

ACCESSION JUDGE ADVOCATE

Course Number: *Version 1:* S-5F-0013. *Version 2:* S-5F-0013.

Location: Naval Justice School, Newport, RI.

Length: *Version 1:* 9 weeks (310 hours). *Version 2:* 9 weeks (310 hours).

Exhibit Dates: *Version 1:* 4/95–Present. *Version 2:* 8/93–3/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be proficient in general and military areas of law through an introduction to law, advanced litigation, and trial advocacy; administrative law and procedures; criminal law and procedures; evidence; and public speaking. *Version 2:* Upon completion of the course, the student will be proficient in general and military areas of law through an introduction to law; advanced litigation and trial advocacy, administrative law and procedures, criminal law and procedures, evidence, and public speaking.

Instruction: *Version 1:* The learning outcomes will be accomplished through substantive lectures, seminars, demonstrations, and practical exercises with evaluation and testing of subject matter. The instruction covers an understanding of legal principles and application of constitutional law, common law, statutory law; and regulations; introduction to law, advanced litigation, and trial advocacy; administrative law and procedure; criminal law; and procedures and evidence. *Version 2:* The learning outcomes will be accomplished through substantive lectures, seminars, demonstrations, and practical exercises with evaluation and testing of subject matter. The instruction covers an understanding of legal principles and application of constitutional law, common law, statutory law, and regulations; introduction to law, advanced litigation, and trial advocacy; administrative law and procedure; criminal law; and procedure and evidence.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to law and 2 in public speaking (7/97); in the upper-division baccalaureate category, 3 semester hours in advanced litigation and trial advocacy, 3 in administrative law and procedure, 3 in criminal law and procedures, and 3 in the laws of evidence (7/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in public speaking (7/97); in the upper-division baccalaureate category, 3 semester hours in advanced litigation and trial advocacy, 3 in administrative law and procedure, 3 in criminal law and procedures, and 3 in the laws of evidence (7/97).

NV-1728-0044

MID-CAREER LEGALMAN

Course Number: S-512-0019.

Location: Naval Justice School Detachment, San Diego, CA; Naval Justice School Detachment, Norfolk, VA; Naval Justice School, Newport, RI.

Length: 2 weeks (68 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply advanced legal research skills.

Instruction: Course methods include a combination of classroom instruction, and practical exercises in legal research and writing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in legal research and writing (7/97).

NV-1728-0045

COAST GUARD LEGAL CLERK

Course Number: S-512-0008.

Location: Naval Justice School, Newport, RI.

Length: 2 weeks (68 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to function productively in a legal office, assisting attorneys and other legal officer personnel.

Instruction: A combination of classroom instruction, practical exercises and examinations. Topics include: criminal law, legal research, paralegal procedures, wills, Lexis/Nexis, evidence, and family advocacy.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to paralegalism (7/97).

NV-1728-0046

ARMY COURT REPORTING

Course Number: S-512-0010.

Location: Naval Justice School, Newport, RI.

Length: 5 weeks (170 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to accurately and timely transcribe verbatim/summarized transcripts of military justice proceedings.

Instruction: Course methods include a combination of classroom instruction, practical exercises, and examinations. The classroom instruction consists mainly of practicing verbatim transcription techniques.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/97).

NV-1728-0047

RESERVE ARMY COURT REPORTING

Course Number: S-512-0015.

Location: Naval Justice School, Newport, RI.

Length: 2 weeks (68 hours).

Exhibit Dates: 4/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to accurately and timely transcribe verbatim/summarized transcripts of military justice proceedings.

Instruction: Course methods include a combination of classroom instruction, practical exercises, and examinations. The classroom instruction consists mainly of practicing verbatim transcription techniques.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/97).

NV-1728-0048

COAST GUARD COURT REPORTING

Course Number: S-512-0016.

Location: Naval Justice School, Newport, RI.

Length: 5 weeks (170 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to accurately and timely transcribe verbatim/summarized transcripts of military justice proceedings.

Instruction: Course methods include a combination of classroom instruction, practical exercises, and examinations. The classroom instruction consists mainly of practicing verbatim transcription techniques.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (7/97).

NV-1729-0010

Submarine Food Service Watchstander

Course Number: F-000-0070.

Location: Submarine School, New London, Groton, CT; Service School Command, San Diego, CA.

Length: 2 weeks (77 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply the principles, rules, and concepts of issue, inventory, and product acceptability in a food service operation.

Instruction: Course includes preparing forms and procedures for receiving and storing food items and for inventory procedures; safety, operating, and cleaning procedures for food service equipment; sanitation and safety techniques; the basic four food groups and nutrition as they apply to menu planning; and basic supervision principles.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in food service operations (3/90).

NV-1729-0011

Mess Management Specialist, Class A

Course Number: A-800-0013.

Location: Service School Command, San Diego, CA.

Length: 7 weeks (205 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to prepare food items using standard recipes.

Instruction: Lectures and laboratory experiences emphasize basic cooking and baking skills, use of standard recipes, food service organization, recipe conversion, sanitation and safety rules, and table service.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in food preparation (2/90).

NV-1729-0012

Food Service Records and Returns

Course Number: *Version 1:* A-800-0020. *Version 2:* A-800-0020.

Location: *Version 1:* Fleet Training Center, San Diego, CA; Submarine School, New London, Groton, CT; Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA. *Version 2:* Fleet and Mine Warfare Training Center, Charleston, SC; Trident Training Facility, Kings Bay, GA; Fleet Training Command, Norfolk, VA; Submarine School, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, WA; Service School Command, San Diego, CA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 5/97–Present. *Version 2:* 1/90–4/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to design and maintain record keeping systems and filing systems. *Version 2:* Upon completion of the course, the student will be able to design and maintain record keeping systems and filing systems.

Instruction: *Version 1:* The instruction includes lectures and exercises in developing and maintaining records in the areas of procurement, receiving, delivery, transfers, expenditures, and receipts. *Version 2:* The instruction includes lectures and exercises in developing and maintaining records in the areas of procurement, receiving, delivery, transfers, expenditures, and receipts.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in food service operations (3/97) (3/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in food service operation (2/90).

NV-1729-0013

1. Food Service Management Automated Recordskeeper
2. Food Service Management
(Food Service Management Automated Recordskeeper)

Course Number: *Version 1:* A-800-0027. *Version 2:* A-800-0027.

Location: *Version 1:* Submarine Base, New London, Groton, CT; Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA; Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA. *Version 2:* Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA; Service School Command, San Diego, CA.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 2/97–Present. *Version 2:* 1/90–1/97.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate a computerized food service record keeping system and solve associated problems. *Version 2:* Upon completion of the course, the student will be able to operate a computerized food service record keeping system and solve associated problems.

Instruction: *Version 1:* Lectures and performance exercises cover computers, including equipment setup and upkeep, loading software, computer operations, security requirements, and food service applications. *Version 2:* Lectures and performance exercises cover computers, including equipment setup and upkeep, loading software, computer operations, security requirements, and food service applications.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 3 semester hours in food service computer applications (3/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 3 semester hours in food service computer applications (11/95).

NV-1729-0014

Food Service Administration

Course Number: *Version 1:* A-800-0015. *Version 2:* A-800-0015.

Location: *Version 1:* Fleet Training Center, Norfolk, VA; Fleet Training Center, San Diego, CA. *Version 2:* Supply Schools, Fleet Training Center, Norfolk, VA; Service School Command, San Diego, CA.

Length: *Version 1:* 5 weeks (200 hours). *Version 2:* 6-7 weeks (264 hours).

Exhibit Dates: *Version 1:* 2/97–Present. *Version 2:* 1/90–1/97.

Learning Outcomes: *Version 1:* This version is pending evaluation. *Version 2:* Upon completion of the course, the student will have be able to manage and supervise food production and food service.

Instruction: *Version 1:* This version is pending evaluation. *Version 2:* Lectures and/or exercises cover sanitation, customer service, menu planning, executive (private) dining, employee cafeterias, and the overall administration of food and beverage service.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the upper-division baccalaureate category, 3 semester hours in food service administration (2/90).

NV-1729-0015

General Mess Operations

Course Number: A-800-0025.

Location: Service School Command, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to operate a food service facility.

Instruction: The course consists of lectures and problem solving in the areas of food preparation, menu planning, food presentation, food service equipment, sanitation and safety, and food service management.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in food service operations (2/90).

NV-1729-0016

Private Mess Operations

Course Number: A-800-0026.

Location: Service School Command, San Diego, CA.

Length: 2 weeks (60 hours).

Exhibit Dates: 1/90–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to perform the advanced administrative, accounting, and managerial functions required to operate an executive dining room.

Instruction: Classroom lectures emphasize purchasing, receiving, and inventory procedures; accounting and auditing; protocol; and service and preparation techniques.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in dining room management (2/90).

NV-1729-0017

Advanced Food Preparation

Course Number: A-800-0018.

Location: Service School Command, San Diego, CA.

Length: 3 weeks (110-120 hours).

Exhibit Dates: 1/90–1/94.

Learning Outcomes: Upon completion of the course, the student will be able to apply the principles of advanced culinary arts in food preparation.

Instruction: Course consists of lectures and performance exercises in advanced cooking, baking, garnishing, and ice carving.

Credit Recommendation: In the upper-division baccalaureate category, 3 semester hours in advanced culinary arts (2/90).

NV-1730-0007

S-3A Environmental Control, Miscellaneous Utilities and Egress Systems Organizational Maintenance

Course Number: C-602-3679.

Location: Air Station, North Island, San Diego, CA; Air Station, Cecil Field, FL.

Length: 2 weeks (96 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To provide enlisted personnel with the skills necessary to operate, test, and troubleshoot aircraft environmental control and egress systems.

Learning Outcomes: Upon completion of the course, the student will be able to understand and troubleshoot the oxygen, bleed air, refrigeration, cabin environmental control, ice protection, and egress systems and use proper test procedures and equipment for troubleshooting these systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in air conditioning/refrigeration systems (4/85).

NV-1730-0009

Ship's Stores Refrigeration System R-12 Combined Maintenance

Course Number: A-720-0027.

Location: Submarine Training Center, Norfolk, VA; Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 1-2 weeks (58 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the relationship of refrigeration systems to other mechanical systems and operate and maintain industrial refrigeration systems.

Instruction: Lectures and laboratories cover the operation and maintenance of industrial refrigeration systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester lecture and 1 semester hour laboratory in refrigeration systems (10/89).

NV-1730-0010

Lithium Bromide Maintenance, Class F1

Course Number: A-652-0224.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Submarine Training Center, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (77 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and operation of absorption refrigeration systems.

Instruction: Lectures and laboratories cover the lithium bromide system and its characteristics, control systems, operation, and maintenance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour lecture and 1 semester hour laboratory in refrigeration systems (10/89).

NV-1730-0011

Air Conditioning and Refrigeration

Course Number: A-720-0030.

Location: Submarine School, New London, Groton, CT.

Length: 6 weeks (234 hours).

Exhibit Dates: 1/90–12/92.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and principles of operation of mechanical and absorption refrigeration systems.

Instruction: Lectures and laboratories cover mechanical and absorption refrigeration systems, including instruction in psychrometrics, electrical motor theory, compressor and heat exchanger construction, controls, load calculations, and comfort conditioning.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours lecture and 2 semester hours laboratory in refrigeration systems (10/89).

NV-1731-0001

Trident Submarine Atmospheric Support System Maintenance

Course Number: A-652-0146.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 1 week (56 hours).

Exhibit Dates: 1/90–3/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform all operational and documented fault isolation procedures on CO/H2 burner and carbon dioxide scrubber assemblies.

Instruction: Lecture and laboratory exercises cover the theory of operation and maintenance of CO/H2 burners and carbon dioxide scrubbers.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/89).

NV-1731-0002

Outboard Motor Overhaul

Course Number: K-652-0237.

Location: Amphibious School, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 11/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to repair and maintain Johnson and Evinrude two-cycle motors.

Instruction: Lectures and laboratories cover the repair and maintenance of outboard motors. Included are topics on major motor components and fuel and electrical systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in automotive engine repair or outboard repair (3/92).

NV-1731-0003

Landing Craft, Air Cushion Propulsion and Lift Systems Maintenance

Course Number: K-652-0314.

Location: Amphibious School, San Diego, CA.

Length: 5 weeks (200 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to set up and maintain gas turbine engines, propulsion and lift systems, and mechanical auxiliaries and inspect, troubleshoot, and operate test equipment related to the gear boxes, transmissions, propellers, auxiliary power units, bow thrusters, rudders, and propulsion systems.

Instruction: Lectures, laboratories, and shop exercises cover main and primary propulsion systems and auxiliary systems. Students must successfully complete a written test for completion of the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in marine propulsion systems (3/92).

NV-1731-0004

Cargo Offload and Discharge System/Container Offloading and Transfer Systems (COLD/COTS)

Course Number: K-652-0318.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA; Amphibious School, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to maintain the cargo and container offload, discharge, and transfer systems of a self-propelled barge ferry.

Instruction: Lectures and laboratories include topics on propulsion systems, electrical systems, and winch assembly components required to operate the offload and transfer equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in mechanical systems repair (3/97).

NV-1732-0001

Steam Generating Plant Inspector

Course Number: K-651-2151.

Location: Fleet Training Center, San Diego, CA.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To train enlisted personnel to perform as steam generating plant inspectors.

Instruction: Lectures and practical exercises cover steam generating plants, including salient design features of naval boilers, tube ruptures and renewal, casing and foundation, pressure parts not exposed to firesides, hydro tests, safety valves, boiler inspection, boiler chemistry, and steam generator performance during steady load.

Credit Recommendation: In the vocational certificate category, 4 semester hours in boiler inspection (5/82); in the lower-division baccalaureate/associate degree category, 2 semester hours in steam generating plant technology (5/82).

NV-1732-0010

FFG-7 Class Ship Auxiliary Electrical System Technician

Course Number: A-662-0121.

Location: Service School Command, Great Lakes, IL.

Length: 19 weeks (760 hours).

Exhibit Dates: 1/90–10/93.

Objectives: To train personnel to operate and perform corrective and preventive maintenance on auxiliary electrical systems on an FFG-7 class ship.

Instruction: This is a pipeline course consisting of NV-1704-0262, NV-1714-0031, NV-1714-0029, and NV-1601-0026.

Credit Recommendation: Please refer to the exhibits noted above for credit recommendation (10/83).

NV-1732-0011

Prospective Nuclear Engineer Officer

Course Number: L-4H-0026.

Location: Submarine Training Facility, San Diego CA; Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Center, Pacific, Pearl Harbor, HI.

Length: (Self-paced), 8 weeks.

Exhibit Dates: 1/90–11/95.

Objectives: To assist nuclear engineer officers in preparation for the nuclear engineer officer examination.

Instruction: The course consists of a series of test questions on the maintenance of 58G reactor plants.

Credit Recommendation: Credit is not recommended because of the nature of the presentation of the course (11/85).

NV-1732-0013

Carbon Dioxide Scrubber and Carbon Monoxide/Hydrogen Burner Combined Maintenance

Course Number: A-652-0104.

Location: Submarine Training Facility, San Diego, CA; Submarine Training Center, Pacific, Pearl Harbor, HI; Norfolk, VA; Guided Missile School Detachment; Submarine Base, New London, Groton, CT; Submarine Training Facility, Charleston, SC.

Length: 1 week (42 hours).

Exhibit Dates: 1/90–7/96.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive maintenance, testing, troubleshooting, and overhaul of the major components of the CO2 scrubber and CO-H2 burner system.

Instruction: Instruction includes group-paced classroom and laboratory instruction on maintenance and repair of the CO2 scrubber and CO-H2 burner system.

Credit Recommendation: In the vocational certificate category, 2 semester hours in introduction to mechanics (7/87).

NV-1732-0014

Senior Enlisted Propulsion Engineering

(Senior Enlisted Propulsion Engineering (Steam, Gas Turbine, Diesel))

Course Number: A-651-0110.

Location: Service School Command, Great Lakes, IL.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to supervise the routine operation of a power plant; carry out shipboard inspections, tests, and trials; provide for crew training and readiness; demonstrate knowledge of shipboard engineering systems; and evaluate operating conditions and components of a steam (169W) propulsion plant, a diesel (169X) propulsion plant, or a gas turbine (169V) propulsion plant.

Instruction: Lectures, laboratory training, and practical exercises cover inspection, maintenance, and management procedures; personnel duties and training; plant operation, and casualty control procedures for high-pressure steam power plant systems, including auxiliary, electrical, control, and plant safety systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in facilities management and 2 in steam laboratory (169W) or gas turbine laboratory (169V), or diesel laboratory (169X) (12/95).

NV-1732-0015

Nuclear Propulsion Plant Refresher Training

Course Number: A-661-0106.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA; Submarine School, Norfolk, VA; Submarine School, Pearl Harbor, HI; Submarine School, New London, Groton, CT.

Length: 5 weeks (91 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have the theoretical background to qualify as engineering water supervisor.

Instruction: Lectures and self-paced study modules cover fundamental reactor plant concepts and principles (nuclear physics, chemistry, and material science), plant start-up, and operations at power.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in nuclear power plant technology (2/89).

NV-1732-0016

Trident Submarine Auxiliary Equipment Technician Replacement Level 1

Course Number: A-652-0140.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 6 weeks (209 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify various power plant components; operate power plant auxiliary equipment; and perform preventive and corrective maintenance on pumps, valves, and hydraulic, pneumatic, and refrigeration systems.

Instruction: Lectures and laboratory exercises cover the construction, operation, and maintenance of power plant auxiliary equipment such as pumps, valves, hydraulic and compressed air systems, and refrigeration systems.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in power plant technology or facilities engineering (2/89).

NV-1732-0017

Steam Generator Maintenance

Course Number: *Version 1:* A-651-0075. *Version 2:* A-651-0075.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: *Version 1:* 5 weeks (176 hours). *Version 2:* 4 weeks (160 hours).

Exhibit Dates: *Version 1:* 6/95–Present. *Version 2:* 1/90–5/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to perform diagnosis, maintenance, and repair of steam generators; use manuals to locate appropriate repair procedures, part tolerances, and specifications; and perform periodic, preventive maintenance on steam generators. *Version 2:* Upon completion of the course the student will perform proper inspection, repair, and maintenance on high-pressure steam generators.

Instruction: *Version 1:* Lectures and laboratory experiences are used in the instruction of this course. Topics include inspection and maintenance of high-pressure boilers and boiler components, including refractories, drums, headers, tubes, firesides, uptakes, smoke indicators, burners, quick closing valves, soot blowers, blow down system, supports, air casings, safety valves, and liquid level indicators. *Version 2:* Classroom instruction and practical exercises cover the inspection and maintenance of high-pressure boilers and boiler components, including refractories, drums, headers, tubes, firesides, uptakes, smoke indicators, burners, quick closing valves, soot blowers, blow down system, supports, air casings, safety valves, and liquid level indicators.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 2 semester hours in steam generator repair and maintenance (11/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in steam generator maintenance and repair (3/89).

NV-1732-0018

Valve Maintenance

(Valve and Steam Trap Maintenance)

Course Number: A-651-0065.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 1-2 weeks (42-54 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform preventive and corrective maintenance on all types of valves and orifice-type steam traps as found in steam power plants and their supporting systems.

Instruction: Performance-oriented instruction covers the above topics.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in steam power systems laboratory (6/94).

NV-1732-0019

Nuclear Power Plant Welder Requalification

Course Number: A-701-0031.

Location: Submarine Training Center, Pacific, Pearl Harbor, HI; Trident Training Facility, Kings Bay, GA; Trident Training Facility, Bangor, Bremerton, WA; Submarine Training Facility, Charleston, SC; Submarine School, New London, Groton, CT.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–11/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform basic welding functions and take intermediate and advanced welding or welding supervisor instruction to ASME pressure vessel and nuclear code standards.

Instruction: Course includes lectures on safety, welding and silver brazing processes, and nondestructive testing processes. Laboratory sessions are used to bring the student to a reasonable level of proficiency in welding (or brazing) pipe or plate. Repairs to welds and braze joints are also covered.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours lecture and 3 semester hours laboratory in welding processes, brazing processes, and nondestructive testing processes. Note: this course duplicates A-701-0015. (NV-1710-0114). Credit should not be awarded for both (10/89).

NV-1732-0020

Utilitiesman, Class A

Course Number: *Version 1:* J3ABR3E431 003/004/005; A-720-0012. *Version 2:* A-720-0012.

Location: *Version 1:* Construction Training Center Detachment, Sheppard AFB, TX. *Version 2:* Construction Training Center, Gulfport, MS; Construction Training Center, Port Hueneme, CA.

Length: *Version 1:* 13-14 weeks (534 hours). *Version 2:* 12 weeks (427 hours).

Exhibit Dates: *Version 1:* 10/95–Present. *Version 2:* 1/90–9/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to install and maintain basic plumbing, operate low- and medium-pressure boilers, operate and maintain air compressors and refrigeration equipment, conduct routine preventive maintenance, and troubleshoot electrical control devices. *Version 2:* Upon completion of the course, the student will be able to install and maintain basic plumbing, operate low- and medium-pressure boilers, operate and maintain air compressors and refrigeration equipment, conduct routine preventive maintenance, and troubleshoot electrical control devices.

Instruction: *Version 1:* Lectures and practical exercises cover utility operation, including plumbing, field sanitation, internal combustion engines, pumps, compressors, electricity, refrigeration, and boiler. *Version 2:* Lectures and practical exercises cover utility operation, including plumbing, field sanitation, internal combustion engines, pumps, compressors, electricity, refrigeration, and boiler.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in electricity; 6 in plumbing; and 6 in heating, air conditioning, and refrigeration (4/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in basic electronics, 6 in basic plumbing, and 2 in air conditioning and refrigeration (6/91).

NV-1732-0021

NC-8A/-1 Mobile Electric Power Plant Intermediate Maintenance

Course Number: *Version 1:* C-602-3223A. *Version 2:* C-602-3223.

Location: *Version 1:* Air Maintenance Training Group, Jacksonville, FL; Air Maintenance Training Group, North Island, CA. *Version 2:* Air Maintenance Training Detachment, Moffett Field, CA; Air Maintenance Training Detachment, Jacksonville, FL.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 3 weeks (120 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 1/90–12/93.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to operate, maintain, and repair a mobile electric power plant. This version is pending evaluation. *Version 2:* Upon completion of the course, the student will be able to operate, maintain, and repair a mobile electric power plant.

Instruction: *Version 1:* Lectures and practical exercises cover engine control and propulsion systems; output power systems; and major component theory, including fault indication board, AC/DC voltage module, AC/DC frequency module, and AC/DC voltage regulators. This version is pending evaluation. *Version 2:* Lectures and practical exercises cover engine control and propulsion systems; output power systems; and major component theory, including fault indication board, AC/DC voltage module, AC/DC frequency module, and AC/DC voltage regulators.

Credit Recommendation: *Version 1:* Pending evaluation. *Version 2:* In the vocational certificate category, 2 semester hours in AC/DC generator repair (7/92).

NV-1732-0022

Introduction to Engineering Systems Maintenance and Management

Course Number: A-652-0152.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 11/91–10/93.

Learning Outcomes: Before 11/91 see NV-1704-0262. Upon completion of the course, students will be able to describe ship's propulsion and auxiliary systems at a level that allows them to monitor plant operations and interpret monitored information.

Instruction: Lectures and practical exercises cover monitoring the operation of a power plant. Included are the use of technical manuals; maintenance concepts of gas turbine systems, support systems, and diesel generator systems; power generation and conversion equipment; air conditioning and refrigeration systems; seawater-freshwater systems; fuel systems; compressed air systems; mechanical handling systems; and pollution control systems found on an FFG-7 (frigate).

Credit Recommendation: In the vocational certificate category, 2 semester hours in basic power plant operation (10/93).

NV-1732-0023

FFG-7 Auxiliary Mechanical Systems Maintenance

Course Number: *Version 1:* A-652-0158. *Version 2:* A-652-0158.

Location: Service School Command, Great Lakes, IL.

Length: *Version 1:* 4 weeks (160 hours). *Version 2:* 5 weeks (196 hours).

Exhibit Dates: *Version 1:* 1/94–Present. *Version 2:* 4/92–12/93.

Learning Outcomes: *Version 1:* Before 1/94 see NV-1715-1073. Upon completion of the course, the student will be able to operate and maintain auxiliary mechanical systems found aboard FFG-7 ships (frigates), including oil waste disposal systems, elevator/conveyer systems, and compressed air systems. *Version 2:* Upon completion of the course, the student will be able to operate and maintain auxiliary mechanical systems found aboard FFG-7 ships (frigates), including oil waste disposal systems, elevator/conveyer systems, compressed air systems, and an electrically-driven auxiliary propulsion unit (directional bow thruster).

Instruction: *Version 1:* Lectures and practical exercises cover the above equipment. *Version 2:* Lectures and practical exercises cover the above equipment.

Credit Recommendation: *Version 1:* In the vocational certificate category, 4 semester hours in power plant and auxiliary plant operations (7/95). *Version 2:* In the vocational certificate category, 5 semester hours in power plant and auxiliary plant operations (10/93).

NV-1732-0024

Engineman Six Year Obligor Advanced/ Maintenance (Main Propulsion Strand)

Course Number: A-652-0326.

Location: Service School Command, Great Lakes, IL.

Length: 4 weeks (160 hours).

Exhibit Dates: 4/93–6/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate and maintain auxiliary shipboard equipment, such as clutches and brakes, main reduction gears, shafting and bearings, controllable-pitch propellers, lube oil purifiers, and local control stations. Student will be able to perform watchstanding and casualty control procedures.

Instruction: Lectures, practical exercises, and demonstrations cover auxiliary equipment operation and maintenance. Systems include clutches, brakes, reduction gears, shafting and bearings, controllable-pitch propellers, lube oil purification, and local control stations.

Credit Recommendation: In the vocational certificate category, 3 semester hours in power plant and auxiliary equipment operation and maintenance (10/93).

NV-1732-0025

Senior Enlisted Engineering Management

Course Number: K-651-2239.

Location: Fleet Training Center, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (64-76 hours).

Exhibit Dates: 12/93–Present.

Learning Outcomes: Upon completion of the course, the student will be able to manage, operate, and maintain propulsion systems and programs with special emphasis on practical engineering management skills.

Instruction: The method of instruction is classroom lecture. Topics covered include engineering management; the operating conditions of designated systems (steam, diesel, gas turbine, and electrical); and using technical references and instructions in scenarios with plant logs, records, reports, system diagrams, and applicable technical references and procedures. Additional topics include time management, setting priorities, delegation, goal settings, technical report writing, quality assurance, training plans, casualty control, tag out procedures, potable water chemical treatment, safety, heat stress, and hazardous material handling and storage.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in engineering management (2/96).

NV-1732-0026

NAVAL NUCLEAR POWER SCHOOL, ENLISTED

Course Number: A-661-0010.

Location: Nuclear Power Training Command, Orlando, FL.

Length: 24 weeks (687 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will have a comprehensive understanding of a pressurized-water nuclear power plant, including reactor core nuclear principles, heat transfer and fluid systems, plant chemistry and materials, mechanical and electrical systems, and radiological control.

Instruction: Lectures, readings, discussions, mandatory self-instruction, and testing and evaluation cover the areas of mathematics, physics, heat transfer and fluid flow, fundamentals of nuclear reactor engineering, radiation protection technology, general chemistry and principles of materials, hydraulic systems, applied thermodynamics and heat transfer, power plant systems, and basic electricity/electronics. This understanding is based on a thorough grounding in algebra and trigonometry, with a subsequent in-depth physics course emphasizing electromagnetism, atomic, and nuclear physics. The student is fully prepared to undertake hands-on training experiences based on this extensive classroom preparation. Also the student is infused with the culture of a disciplined engineering operation with integral safety consciousness. All students will have the comprehensive understanding, but some specialization gives individual students more depth in either electrical or mechanical aspects of the plant.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 5 semester hours in general physics, 3 in heat transfer and fluid flow, 3 in nuclear reactor engineering, 1 in atomic and nuclear physics, 1 in radiation protection technology, 3 in general chemistry and principles of materials, and 4 in technical mathematics. If rating held is Machinist's Mate, add 3 semester hours in applied thermodynamics and heat transfer, 3 in power plant systems, and 3 in basic electricity. If rating held is Electronics Technician or Electrician's Mate, add 2 semester hours in hydraulic systems, 2 in DC circuits, 2 in AC circuits, 2 in digital principles, and 2 in electric machines (7/97).

NV-1733-0004

JUMPMASTER NAVAL PARACHUTIST, CLASS C1

Course Number: C-602-2022.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 4 weeks (120 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform jumpmaster duties, including accurate landing procedures, accurate direction of aircraft in flight, and organization of safe and efficient parachute operations.

Instruction: Course includes lecture and practical performance with a ratio of approximately 1:12. Physical fitness is stressed throughout course. Inspection and packing parachute equipment and control of parachute descent to reach a predetermined area without instructions from people on the ground are also covered. Student is trained to organize and conduct parachute operations including considering weather and aircraft performance.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in physical education for advanced parachute procedures (6/87).

NV-1733-0005

ADVANCED NAVAL PARACHUTIST, CLASS C1

Course Number: C-602-2021.

Location: Air Technical Training Center, Lakehurst, NJ.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–12/97.

Learning Outcomes: Upon completion of the course, the student will be able to perform free-fall parachute descents of not less than five seconds followed by manually deploying the parachute.

Instruction: Course includes lecture and practical performance with a ratio of approximately 1:9. Physical conditioning is stressed throughout the course. Specific areas of training include inspection and packing parachute and related equipment, parachute canopy control, aircraft exits, free-falling techniques and positions, use of supplemental oxygen for high altitude, and night and water landing considerations.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in physical education (introduction to sky diving) (6/87).

NV-1736-0002

PRECISION GRINDING AND BALANCING, CLASS C1

Course Number: A-702-0022.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–7/92.

Objectives: After 7/92 see NV-1736-0005. To provide naval personnel with advanced machine training in sharpening, reclaiming, and restoring cutters for machine shop operations.

Instruction: Course includes lectures, demonstrations, and laboratory exercises in precision grinding, including safety, hand tools, abrasives, composition, marking and installing grinding wheels, surface and cylindrical grinders, tool and cutter grinders, and special grinders. The course also includes theory and application of hardness testing and analysis and balancing machine components.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in advanced machine shop (5/82).

NV-1736-0003

TURRET LATHES AND METAL BUILD-UP, CLASS C1

Course Number: A-702-0023.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–6/92.

Objectives: After 6/92 see NV-1736-0006. To train personnel in the theory and use of turret lathes, boring mills, and surface build-up equipment.

Instruction: Lectures and practical exercises cover the setup, operation, and maintenance of horizontal and vertical turret lathes and horizontal boring mills. Selection, operation, and maintenance of metal surfacing equipment including spray, torch, and electroplating are covered, as is repair and restoration of babbitt bearings.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in machine tool metalworking and 3 in machine shop laboratory (5/82).

NV-1736-0004

ADVANCED MILLING AND SHOP MANAGEMENT, CLASS C1

Course Number: A-702-0024.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide naval personnel with the advanced theory and application of gear manufacture and basic supervision skills.

Instruction: Course includes geometric and trigonometric computation development for setup and indexing, spur, helical, level, and worm gear manufacture as well as advanced use of the universal milling machine and attachments. Includes instruction in effective shop management techniques, personnel supervision, work load maintenance, and equipment coordination.

Credit Recommendation: In the vocational certificate category, 5 semester hours in advanced machine shop and 1 in supervision/management techniques (10/93); in the lower-division baccalaureate/associate degree category, 3 semester hours in advanced machine shop and 1 in trade mathematics (10/93).

NV-1736-0005

PRECISION GRINDING

Course Number: A-702-0022.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 8/92–Present.

Learning Outcomes: Before 8/92 see NV-1736-0002. Upon completion of the course, the student will be able to sharpen tools and operate grinding machines.

Instruction: Course includes lectures, demonstrations, and laboratory exercises in precision grinding, including safety, hand tools, abrasives, composition, marking and installing grinding wheels, surface and cylindrical grinders, tool and cutter grinders, and special grinders. The course also includes theory and application of hardness testing.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in machine tool grinding operations laboratory (11/93).

NV-1736-0006

Heavy Machinery/Metal Build-Up
(Turret Lathes and Metal Build-Up, Class C1)

Course Number: A-702-0023.

Location: Service School Command, San Diego, CA.

Length: 6 weeks (240 hours).

Exhibit Dates: 7/92–Present.

Learning Outcomes: Before 7/92 see NV-1736-0003. Upon completion of the course, the student will be able to describe the basic principles of tooling; set up and operate both horizontal and vertical turret lathes; use the horizontal boring mill; and describe the principles of metal buildup through both electroplating and metal spray processes.

Instruction: By the use of lectures, audiovisuals, and extensive hands-on learning experiences, topics covered include basic machine shop operations; operation and maintenance of horizontal and vertical turret lathes, horizontal boring machine, and metal surfacing equipment, including spray, torch, and electroplating types; and repair and restoration of babbitt bearings.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in machine tool metalworking and 2 in advanced machine tool laboratory (11/93).

NV-2201-0113

Gunnery Petty Officer

Course Number: J-041-0102.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2-3 weeks (80 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train petty officers in the major administrative requirements, principles, and applications associated with gunnery science.

Instruction: Lectures cover gunnery administration, including operational reports, tactical weapon publications, and support activities. Discussions cover ordnance handling, characteristics of small arms, and introduction to ballistics theory using range tables, factors that effect accuracy, and error resolution. Practical exercises cover administrative procedures, ballistic calculations, and error analysis.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0014

Basic Military Training
(Recruit Training)

Course Number: X-777-7770.

Location: Recruit Training Command, Orlando, FL; Recruit Training Command, Great Lakes, IL; Recruit Training Command, San Diego, CA.

Length: 7-8 weeks (265-267 hours).

Exhibit Dates: 1/90–9/91.

Objectives: After 9/91 see NV-2202-0165. To assimilate recruits into the Navy way of life and to prepare them for further advanced training in specialized Navy occupations.

Instruction: Student receives indoctrination and physical conditioning to prepare for the rigors and unique demands of naval service. Observance of naval customs and traditions is taught in a manner to foster pride in the nation and in patriotic behavior, high standards of conduct, and respect for civilian and military authority.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 1 semester hour in personal fitness/conditioning, 1 in personal/community health, and 2 in first aid and safety (10/79).

NV-2202-0033

Aviation Officer Candidate

Course Number: Q-9B-0021.

Location: Air Basic Training Command, Pensacola, FL.

Length: 14 weeks (375 hours).

Exhibit Dates: 1/90–3/95.

Objectives: To train military personnel to be aviation officers.

Instruction: Lectures cover naval history, orientation to naval careers, world affairs, physics and mathematics, engineering, aerodynamics, aviation physiology, navigation and seamanship, physical fitness and swimming, and applied leadership training.

Credit Recommendation: In the upper-division baccalaureate category, 4 semester hours in naval science, 2 in fundamentals of administration and operations, 2 in navigation, 2 in aerodynamics, and 2 in aviation science (11/86).

NV-2202-0054

Signalman, Class A
(Basic Signalman)

Course Number: K-201-2115; A-203-0001.

Location: Fleet Training Center, Pearl Harbor, HI; Fleet Training Center, Newport, RI; Fleet Training Center, San Diego, CA; Service School Command, Orlando, FL.

Length: 6 weeks (180 hours).

Exhibit Dates: 1/90–5/91.

Objectives: To train enlisted personnel as watchstanders.

Instruction: Lectures and practical exercises cover visual communication procedures, including international Morse code, flag identification and flaghoist signaling, publications, flashing light and semaphore drills and positions, and message construction and procedures.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/83).

NV-2202-0104

Gun Mount 5"/54 Mk 42 Mod 9 and 10, Class C1

Course Number: A-113-0044.

Location: Service School Command, Great Lakes, IL.

Length: 21 weeks (840 hours).

Exhibit Dates: 1/90–1/92.

Objectives: To train personnel in the operation, adjustment, and maintenance of a 5"/54 gun mount.

Instruction: Lectures and practical exercises in gun loaders, hoists, ammunition carriers, and related equipment.

Credit Recommendation: In the vocational certificate category, 3 semester hours in electromechanical maintenance (1/82).

NV-2202-0106

Mine Mk 60 Mod 0 Weapons Systems Technician
(Underwater Mine Mk 60 (CAPTOR))

Course Number: J-647-0036.

Location: Fleet and Mine Warfare Training Center, Charleston, SC.

Length: 8 weeks (260 hours).

Exhibit Dates: 1/90–3/93.

Objectives: To train enlisted personnel to perform intermediate maintenance on a CAPTOR weapons system.

Instruction: Lectures and practical exercises in the maintenance of a weapons system and all associated support equipment. The tasks include weapons preparation as well as operation and authorized maintenance of test equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (3/83).

NV-2202-0107

Navigation Officer (Shipboard) and Celestial, Class C2

Course Number: J-2G-0618.

Location: Fleet Training Center, Norfolk, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–9/93.

Objectives: To train officers in the principles and techniques of navigation.

Instruction: Lectures and practical exercises cover shipboard duties of the ship's navigator, including use and maintenance of charts and navigation publications, magnetic compass operation and adjustment, piloting, celestial navigation, and administration of navigation functions aboard ship.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation (9/83).

NV-2202-0108

Naval and Marine Electronic Warfare Officer

Course Number: C-2D-3810.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (480 hours).

Exhibit Dates: 1/90–5/92.

Objectives: To provide background knowledge prerequisite to operational training in a squadron.

Learning Outcomes: Upon completion of the course, the student will be able to create an area order of battle from appropriate publications, determine the threats within a complex signal environment based upon the identification of systems/platforms through recognition of the signals, relay an assessment of the environment in accord with the communications plan, and adjust the order of battle to accomplish the basic ESM and/or ESM objectives.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/87).

NV-2202-0109

Naval Science Institute

Course Number: P-00-4307.

Location: Naval Education and Training Command, Newport, RI.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–7/94.

Objectives: To provide the student with the training equivalent to the basic course of Navy ROTC and to qualify the students for enrollment into the advanced course.

Instruction: This is a four-part course including introduction to naval science, ship systems (engineering), ships systems (weapons), and sea power and maritime affairs. Introduction to naval science includes an introduction to the naval profession and concepts of sea power; ship's systems (engineering) includes coverage of basic thermodynamics, steam plant systems, diesel engines, gas turbines, power plant auxiliaries, basic ships structure, stability, buoyancy, damage stability and damage control; ships systems (weapons) includes the basic principles of a naval weapons system such as sensor and detection equipment, tracking equipment, computational devices, and weapons delivery systems. The sea power section has a survey of US naval history from the American Revolution to the present including law of the sea, comparison of the US and Soviet naval strategies and merchant marine commerce. There is a physical education component that requires sailing competency upon completion of the course.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in naval science ship systems II (weapons), 3 in naval science orientation, 1 in personal physical fitness, 1 in basic sailing. In addition, 3 in one of the following areas: naval science ship systems I (engineering), basic marine engineering, or engineering elective; plus either 3 semester hours in sea power and maritime affairs or 2 in naval history since 1775 (7/84).

NV-2202-0110

Senior Enlisted Academy

Course Number: P-00-1300.

Location: Naval Education and Training Center, Newport, RI.

Length: 9 weeks (360 hours).

Exhibit Dates: 1/90–7/94.

Objectives: To prepare senior enlisted personnel to fulfill their leadership and management responsibilities.

Instruction: Lectures and practical exercises cover the areas of leadership and management, including group dynamics, motivation, and managerial theories; communications skills including writing exercises and oral presentations; national security affairs including the role of the US military in the world today; and Navy programs, including programming, budgeting, and planning.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in management process and theory, 4 in human relations in supervision, 3 in operations management, 2 in business communications, 2 in effective speaking, and 1 in personal physical fitness (7/84); in the upper-division baccalaureate category, 3 semester hours in international relations (7/84).

NV-2202-0111

S-3A Armament Control and Delivery System Organizational Maintenance

Course Number: C-646-3676.

Location: Air Station, North Island, San Diego, CA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–4/95.

Objectives: To train technicians to maintain a weapons delivery system.

Learning Outcomes: Upon completion of the course, the student will be able to perform general maintenance at the block-diagram level on the the search store system, the conventional weapons system, and the special weapons and rocket aiming sight system.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (4/85).

NV-2202-0113

Explosive Ordnance Disposal, Phase 1

Course Number: A-431-0069; 4E-91E/431-55D10/20.

Location: Explosive Ordnance Detachment, Eglin AFB, FL.

Length: 11 weeks (433 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform reconnaissance, identification, recovery, and disposal of non-nuclear explosive ordnance, both foreign and domestic.

Instruction: Training includes lectures and field exercises in explosives and explosive effects, applied mathematics, applied physics, chemical agents and compounds, biological materials, decontamination, chemical hazards, chemical agent detection kits, chemical/biological agent disposal, protective clothing, specialized explosive techniques, storage/handling/transport of explosives, tools and methods, and ordnance planning. NOTE: Army students take this course in conjunction with A-431-0012 (NV-2202-0154) under the Army course number listed above.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to science (explosives), which can be used to satisfy, in part, the science requirement of a non—science major or 6 semester hours in introduction to explosive devices in a police science program (7/91).

Related Occupations: 55D.

NV-2202-0114

CV Naval Tactical Data Systems (NTDS) Data Utilization

Course Number: K-2G-0092.

Location: Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To provide officer and senior enlisted personnel with training in the operational procedures, capabilities, and limitations of the CV/CVN class ship tactical data system.

Instruction: Lectures and laboratory exercises provide the student with a basic understanding of the purpose and use of various controls, subsystems, and modes of operation; methods of data entry; duties of various coordinator/controller personnel; and practical application with system mock-up of target tracking equipment.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (6/86).

NV-2202-0115

Surface Electronic Warfare Officer
(Electronic Warfare Officer Surface)

Course Number: J-2G-0210.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Training Group, Pearl Harbor, HI; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 4-5 weeks (160 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train officers in the concepts and operational applications of electronic warfare.

Instruction: Lectures on a broad range of electronic warfare topics are given covering subjects such as target acquisition and analysis methods, countermeasures, Soviet naval warfare capabilities, free world weapon systems, and electronic warfare administration. Laboratory exercises on mission planning problems are included.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0116

Antisubmarine Warfare Operations Center (ASWOC) Watch Officer

Course Number: J-2G-0367.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3-5 weeks (110-140 hours).

Exhibit Dates: 1/90–Present.

Objectives: To train officers in the capabilities and operation of a tactical data base management system and its use in a naval operations center.

Instruction: Classroom lectures, demonstrations, and laboratory work on function and operation of computer/system components and controls; preparation, receipt, and transmission of messages and data; briefing and debriefing flight crews; preparing, analyzing, and interpreting data; and making calculations.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/91).

NV-2202-0117

Naval Reserve Senior Officer Tactics

Course Number: J-2G-0380.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (73 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To provide senior reserve officers with an update in the varied aspects of naval warfare.

Instruction: Classroom exercises provide a knowledge of Soviet warfare capabilities and tactics; US antisubmarine, electronic, and anti-air warfare capabilities; and US and NATO surface capabilities. Students also engage in exercises which provide practical experiences.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0118

Track Supervisor/Tadil A Track Coordinator (Advanced)

Course Number: J-221-0308.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 1 week (40 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To provide selected enlisted personnel with the knowledge and skills required to function as a tactical data system target tracking supervisor in a multiship/service environment.

Instruction: Classroom lecture combined with laboratory work provides instruction in supervisor duties and responsibilities in accordance with current fleet directives. Also included is information on data input equipment, target tracking procedures, data linking, and related systems.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/86).

NV-2202-0119

CGN-38/DDG-993 (SM-2) Combat Systems Operator

Course Number: J-221-0309.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3 weeks (105 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train personnel to operate the combat system and display consoles on board CGN-38 and DDG-993 class ships.

Instruction: Lecture and laboratory exercises cover the identification of weapon systems/subsystems and sensors and the purpose and operation of various subsystems, including tracking, identification and display, data entry, video processor, sonar and weapon control systems used in a combat environment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0120

Antisubmarine Air Control Naval Tactical Data System (NTDS)

Course Number: J-221-0323.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (140 hours).

Exhibit Dates: 1/90–11/92.

Objectives: To train selected personnel to perform the duties of an antisubmarine air controller including the ability to provide positive control to antisubmarine warfare craft.

Instruction: Classroom and laboratory exercises include instruction in air control, console operation, antisubmarine warfare search procedures, sensors, submarine classifications, sonobuoy patterns, weapons and attack procedures, antisubmarine warfare operations, and air traffic control procedures.

Credit Recommendation: In the vocational certificate category, credit in aircraft traffic control operation on the basis of institutional evaluation (6/86).

NV-2202-0121

Force/Ship Weapons Coordinator Tactical Training

Course Number: J-221-0324.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (75 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To provide watchstanders assigned to tactical data system equipped ships with comprehensive tactical training.

Instruction: Classroom lectures cover basic knowledge of the Soviet threat; US and NATO ships and their weapons; capabilities and limitations of US Navy fighter aircraft; warfare net radio procedures; capabilities, limitations, and use of USAF, USN, and NATO early warning aircraft; antiaircraft warfare equipment and use; and a thorough knowledge of composite warfare doctrine.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0122

Antisubmarine Warfare Operations Center (ASWOC) Operations Control Operator

(Antisubmarine Warfare (ASW) Centers Command and Control System Operator)

Course Number: J-221-0362.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (140 hours).

Exhibit Dates: 1/90–12/97.

Objectives: To train personnel in system capabilities, operation, and functions of antisubmarine warfare equipment.

Instruction: Course consists of lectures and practical work encompassing mission support operations, telecommunications procedures, console operation, data terminal operation, and simulated training missions with associated calculations.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (1/87).

NV-2202-0123

Tactical Action Officer

Course Number: K-2G-0033.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (210 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To provide experienced officers with the tactical and supervisory skills necessary to serve as a multithreat warfare tactician onboard surface ships and embarked tactical staff.

Instruction: Instruction consists of classroom lectures with a few hours of associated laboratory work. Major units of study include physical environment; naval forces command, control, communications, and intelligence; Soviet capabilities; ship and submarine weapons, sensors, and platforms; US naval air capabilities, counter assessment, and tactics.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0124

Air Watch Officer

Course Number: J-2G-0322.

Location: Fleet Training Center, San Diego, CA.

Length: 3 weeks (105 hours).

Exhibit Dates: 1/90–6/96.

Learning Outcomes: Upon completion of the course, the student will be able to provide inexperienced officers and chief petty officers the training to qualify as a watch officer in a combat information center.

Instruction: Course provides an overview of the equipment, tactics, and duties of the personnel in a combat information center (CIC) on a ship, including plot and display boards, CIC communications and data link systems, maneuvering theory, surface formation maneuvers, anti-air and antisubmarine warfare theory, and duties of CIC officers.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0125

Combat Information Center (CIC) Officer

Course Number: J-2G-0325.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (210 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train officers in all operational phases of combat information centers.

Instruction: Instruction includes management, organization, electronic warfare, intelligence, and communications. Other topics include surface formation maneuvers, air control, and anti-air and antisubmarine warfare.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0126

Air Intercept Control Supervisor

Course Number: K-221-0015.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Fleet Combat Training Center, Pacific, San Diego, CA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–12/90.

Objectives: To train qualified air intercept controllers to effectively supervise and instruct air intercept operations.

Instruction: Classroom and laboratory exercises include instruction in air control procedures; US and Soviet aircraft types, performance, and tactics; Soviet naval and air capabilities and warfare doctrine; antisubmarine warfare detection equipment, weapons, and tactics; weather considerations; intercept control communications and tactics, navigation aids, and IFF and radar capabilities; rules/regulations and publications related to aircraft operations; and supervisor training.

Credit Recommendation: In the vocational certificate category, credit in air traffic control operation on the basis of institutional evaluation (6/86).

NV-2202-0127

Naval Warfare Operations Specialist—Advanced

Course Number: K-221-0053.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA; Fleet Combat Training Center, Pacific, San Diego, CA.

Length: 10-14 weeks (40-560 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To provide the knowledge and skills required to qualify as combat information center watch supervisors and division leading petty officers.

Instruction: Classroom lectures, demonstrations, and laboratory exercises provide training in basic principles and tactical use of navigation systems; communications publications and equipment; surface tactical maneuvering; naval gun support; amphibious operations; antisubmarine, antiship, and anti-aircraft warfare; radar use; electronic warfare; and the naval tactical data system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/86).

NV-2202-0128

Antisubmarine Warfare (ASW) Module Watch Officer

Course Number: J-2G-0369.

Location: Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (105 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train officers in the system capabilities and equipment operation of a data base management system and its use in a naval operations center.

Instruction: Classroom lectures, demonstrations, and laboratory work cover function and operation of various computer systems, components, and controls; preparation, receipt, and transmission of messages and data; briefing and debriefing flight crews; preparing, analyzing, and interpreting data; and making calculations.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/86).

NV-2202-0129

Enlisted Tactical Applications

Course Number: J-221-0025.

Location: Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (67-80 hours).

Exhibit Dates: 1/90–Present.

Objectives: To provide leading petty officers with a basic understanding of the interrelationships between weapon/sensor systems and other systems in the ship group in order to enable them to make better decisions regarding system employment in a multithreat environment.

Instruction: Classroom lectures include information on Soviet naval forces; US Navy command, control, and communications tactics; US and allied naval ships, weapons, and sensors; shipboard organization for warfare; and tactical gaming.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (1/93).

NV-2202-0130

Combat Information Center (CIC) Procedures Advanced

Course Number: J-221-0305.

Location: Fleet and Mine Warfare Training Center, Charleston, SC; Fleet Training Center, Mayport, FL; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (70 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train the junior operations specialist as a watchstander and the petty officer as a watch supervisor in a combat information center aboard ship.

Instruction: Course includes a review of sound-powered and radiotelephone procedures; antisubmarine, anti-aircraft, and antisurface ship warfare; and electronic warfare techniques. Course emphasizes plotting ship maneuvers for weapon engagement, scouting, tactics, fleet maneuvers, navigation calculations, and maintaining various records in proper format.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (6/86).

NV-2202-0131

Air Intercept Controller, Conventional Qualification

Course Number: K-221-0007.

Location: Fleet Combat Training Center, Pacific, San Diego, CA; Fleet Combat Training Center, Atlantic, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–6/96.

Objectives: To train senior enlisted and junior officers with previous experience with the tactical data system in the duties, responsibilities, and skills required of air intercept controllers.

Instruction: Lectures and practical exercises cover air intercept control, including fleet anti-air warfare, threat intelligence, interceptor aircraft characteristics and air-to-air weapons systems, air navigation aids, communications equipment, intercept control communications procedures and vocabulary, radar indicator equipment, identification equipment, and preparation and procedures for NTDS control.

Credit Recommendation: In the vocational certificate category, credit in air traffic control operation on the basis of institutional evaluation (6/86).

NV-2202-0132

Joint Military Operations for College of Naval Warfare

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 13 weeks (156 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to assess and implement concepts of military management, planning, and analysis consistent with theoretical foundations of strategy and warfare.

Instruction: Instruction includes a blend of frequent seminar work, carefully selected readings, case studies, an independent research project, and written examinations. The course is divided into four components: strategy and operations; military warfare; planning and decision making; and gaming. Students are required to complete a final examination at the conclusion of each component.

Credit Recommendation: In the graduate degree category, 6 semester hours in either management or military science (9/87).

NV-2202-0133

Maritime Operations for College of Naval Command and Staff

Course Number: None.

Location: Naval War College, Newport, RI.

Length: 14 weeks (151 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to assess and implement concepts of military management, planning, and analysis consistent with theoretical foundations of strategy and warfare.

Instruction: Instruction includes a blend of frequent seminar work, carefully selected readings, case studies, an independent research project, and written examinations. The course is divided into three components: strategy and operations; military warfare; and planning and decision making. Students are required to complete a final examination at the conclusion of each component.

Credit Recommendation: In the graduate degree category, 6 semester hours in either management or military science (9/87).

NV-2202-0134

Maritime Operations Employment of Naval Forces Nonresident Seminar

Course Number: None.

Location: White Oak, MD; Washington, D.C; Seattle, WA; San Francisco, CA; San Diego, CA; Pensacola, FL; Patuxent, MD; Norfolk, VA; Newport, RI; Dahlgren, VA; Corpus Christi, TX; Annapolis, MD.

Length: 36 weeks (90 hours).

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to assess concepts of military management, planning, and analysis and be able to participate knowledgeably in the decision making and management of maritime operations.

Instruction: Methods include seminars and selected readings. Short papers and two written examinations are required. Major topics are strategic concepts, planning and decision making, and naval warfare tasks.

Credit Recommendation: In the graduate degree category, 3 semester hours in management or military science (3/88).

NV-2202-0135

Naval War Correspondence Course in Maritime Operations (Employment of Naval Forces)

Course Number: None.

Location: Naval War College, Off-Campus Program, Washington, D.C.

Length: Maximum, 52 weeks.

Exhibit Dates: 1/90–12/90.

Learning Outcomes: Upon completion of the course, the student will be able to assess concepts of military management, planning, and analysis and participate knowledgeably in the decision making and management of maritime operations.

Instruction: The course is organized by modules in strategic concepts, planning and decision making, and naval warfare tasks. Students complete readings in each module and write essays for all modules. The essays are reviewed by faculty and graded.

Credit Recommendation: In the graduate degree category, 1 semester hour in management or military science (3/88).

NV-2202-0136

Trident Sonar Advanced Operator

Course Number: A-130-0323.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 3 weeks (120 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to operate the AN/BQQ-6 sonar set in all modes.

Instruction: Classroom and laboratory instruction cover sonar administration, sonar calculators, contact localization, and tactical security.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/89).

NV-2202-0137

Trident Sonar Supervisor

Course Number: A-130-0187.

Location: Trident Training Facility, Bangor, Bremerton, WA; Trident Training Facility, Kings Bay, GA.

Length: 3 weeks (46 hours).

Exhibit Dates: 1/90–9/95.

Learning Outcomes: Upon completion of the course, the student will be able to perform as an advanced sonar supervisor.

Instruction: Classroom and laboratory instruction cover the supervisor's responsibilities, sonar subsystem operating conditions, air ASW systems, acoustics, and pseudo sound.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/89).

NV-2202-0138

Strategic Weapon System Officer Trident I

Course Number: A-2F-4623.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will direct operational procedures for a nuclear ballistic missile targeting system.

Instruction: Lectures and practical exercises cover operation of the missile system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0139

Strategic Weapons System Assistant
Weapons Officer (AWEPS) Trident I
Backfit

Course Number: A-2F-4622.

Location: Submarine Training Facility, Charleston, SC; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4-5 weeks (178 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will function as a missile launch officer and nuclear weapons handling supervisor.

Instruction: Lectures and practical exercises cover operational procedures for a specific missile weapons system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0140

Terrier New Threat Upgrade (NTU)
Advanced Officer

Course Number: A-2F-4638.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4 weeks (160 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will supervise system maintenance, administration, and employment of a guided missile fire control system.

Instruction: Lectures and practical exercises cover topics related to the specific missile fire control system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0141

Strategic Weapons System Officer Poseidon

Course Number: A-2F-4621.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will direct operational procedures for a nuclear weapons system.

Instruction: Lectures and practical exercises cover system operation.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0142

Strategic Weapons System Assistant
Weapons Officer Poseidon

Course Number: A-2F-4620.

Location: Submarine Base, New London, Groton, CT; Submarine Training Facility, Charleston, SC; Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4-5 weeks (176 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will function as a missile launch officer and a nuclear weapons handling supervisor.

Instruction: Lectures and practical exercises cover operational procedures for a missile officer.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0144

Trident Mk 4 Reentry System Tender
Transfer and Handling

Course Number: A-644-0023.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 2 weeks (62 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and perform preventive maintenance on missile warheads and warhead-handling equipment.

Instruction: Lectures and practical exercises cover the subject equipment.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0145

Surface Acoustic Analysis Specialist

Course Number: J-130-0500.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 24 weeks (960 hours).

Exhibit Dates: 1/90–7/93.

Learning Outcomes: Upon completion of the course, the student will be able to make basic calculations using algebra, trigonometry, and statistics and apply the concepts of underwater acoustics to sonar systems.

Instruction: This evaluation is based on the first five and one-half weeks of the course. The remainder is classified. Lectures and exercises cover algebra, trigonometry, statistics, and underwater acoustics, including sound propagation theory, environmental effects, acoustic signal processing, underwater sounds, and sonar theory.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in technical mathematics (6/89); in the upper-division baccalaureate category, 4 semester hours in physics of underwater acoustics (6/89).

NV-2202-0146

Intermediate Surface Acoustic Analysis

Course Number: K-130-1093.

Location: Fleet Antisubmarine Warfare Training Center, San Diego, CA; Fleet Antisubmarine Warfare Training Center, Atlantic, Norfolk, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–12/91.

Learning Outcomes: Upon completion of the course, the student will be able to identify ship types based on the passive sonar acoustic signals received.

Instruction: Lectures and practical exercises cover signal reception of passive sonar systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (6/89).

NV-2202-0148

Basic Enlisted Submarine

Course Number: A-060-0011/C; A-060-0011/B; A-060-0011/A; A-060-0011.

Location: Submarine School, New London, Groton, CT.

Length: 5-6 weeks (174-228 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the function of components of shipboard mechanical systems.

Instruction: Lectures and practical instruction cover the basic function of shipboard mechanical systems including description of a submarine's air, drain, ballast, trim, hydraulic, ventilation, and power systems.

Credit Recommendation: In the vocational certificate category, 3 semester hours in general mechanical systems (5/96).

NV-2202-0149

ADVANCED SIGNALMAN

Course Number: J-203-0803.

Location: Service School Command, San Diego, CA; Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–12/93.

Learning Outcomes: Upon completion of the course, the student will be able to describe communications procedures, honors, ceremonies, and advanced navigation techniques.

Instruction: Instruction consists of classroom discussion of the duties of a signalman, handling classified material, message formats, light and flag signal procedures, record keeping, radio procedures, proper display of flags, dress and full dress of ships, navigation, emergency procedures, international Morse code, and the US systems of buoys and navigational aids.

Credit Recommendation: In the vocational certificate category, 2 semester hours in international Morse code (6/94); in the lower-division baccalaureate/associate degree category, 2 semester hours in navigational rules (6/94).

NV-2202-0150

SENIOR QUARTERMASTER REFRESHER

Course Number: J-061-2207.

Location: Fleet Training Center, Norfolk, VA.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to provide navigation expertise to shipboard personnel; select and use appropriate nautical charts; advise during unusual navigational conditions in accordance with fleet directives; extract and record maintenance data from navigation publications; compute positions, courses, and distances and navigate to and from a hypothetical point; determine ship's permanent allowance; correct and update ship's charts and publications; calculate error in magnetic and gyrocompass systems; navigate by dead reckoning; use all charted visual aids to navigation; plot lines of position; use tide and current data; select anchorages; use electronic navigation systems including SATNAV and Loran; use ship's weather monitoring systems; apply the rules of the road; and plan and plot navigation briefs.

Instruction: Lectures and laboratory exercises cover navigation instruments, charts, and aids to navigation. Topics include rules of the road, records and logs, gyro and magnetic compass systems, voyage planning and preparation, tides and currents, and dead reckoning.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 2 semester hours in navigation (12/89).

NV-2202-0151

DIVER EXPLOSIVE ORDNANCE DISPOSAL

Course Number: A-431-0083.

Location: Training Center, Panama City, FL.

Length: 10 weeks (360 hours).

Exhibit Dates: 3/90–8/96.

Learning Outcomes: After 8/96 see NV-0803-0011. Upon completion of the course, the student will be able to disable explosive devices in open-circuit scuba.

Instruction: Lectures, testing, physical conditioning, and underwater performance evaluation cover diving-related duties.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 4 semester hours in scuba diving and 1 in physical education (physical fitness) (7/90).

NV-2202-0152

ADVANCED EXPLOSIVE ORDNANCE DISPOSAL

Course Number: A-431-0015.

Location: Explosive Ordnance School, Indian Head, MD.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to keep current in explosive ordnance disposal.

Instruction: Training is presented in a seminar format and through field trips. Topics include nuclear devices, access and disabling, chemical ordnance, conventional ordnance, underwater ordnance, and related topics.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/91).

NV-2202-0153

ADVANCED ACCESS AND DISABLEMENT

Course Number: A-431-0065.

Location: Explosive Ordnance School, Indian Head, MD.

Length: 2 weeks (80 hours).

Exhibit Dates: 6/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform advanced explosive ordnance disposal techniques on improvised explosive devices.

Instruction: Given the necessary tools and equipment, publications, situations, access exercises, dynamic exercises, and passive entry exercises, students perform procedures to access and disable improvised nuclear devices.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/91).

NV-2202-0154

EXPLOSIVE ORDNANCE DISPOSAL PHASE 2 (SURFACE) (C1)

Course Number: A-431-0012.

Location: Explosive Ordnance School, Indian Head, MD.

Length: 14-15 weeks (592 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify, recover, evaluate, and dispose of all conventional surface explosive ordnance and nuclear ordnance.

Instruction: Course includes lectures, practical exercises, and testing in ground ordnance, guided missiles, bombs and bomb fuses, and render safe and disposal procedures for nuclear ordnance. Protective clothing is also covered. NOTE: Army students will take this course in conjunction with A-431-0069 (NV-2202-0113) under the Army course number listed above.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in innovative explosive devices in a police science program (7/91).

NV-2202-0155

EXPLOSIVE ORDNANCE DISPOSAL SONAR SEARCH SYSTEM BASIC

(Sonar Scanner System Basic Operator)

Course Number: A-431-0074.

Location: Explosive Ordnance School, Indian Head, MD.

Length: 2 weeks (80 hours).

Exhibit Dates: 10/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the sonar search system.

Instruction: Course includes introductory wave propagation theory, practical operations, exercises, and tests.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/91).

NV-2202-0156

1. DIVER EXPLOSIVE ORDNANCE DISPOSAL MK 16 UNDERWATER BREATHING APPARATUS (UBA) MIXED GAS
2. EXPLOSIVE ORDNANCE DISPOSAL MIXED GAS DIVING UNDERWATER BREATHING APPARATUS

Course Number: *Version 1:* A-431-0075. *Version 2:* A-431-0075.

Location: *Version 1:* Diving and Salvage Training Center, Panama City, FL. *Version 2:* Explosive Ordnance School, Indian Head, MD.

Length: *Version 1:* 2 weeks (80 hours). *Version 2:* 2 weeks (80 hours).

Exhibit Dates: *Version 1:* 1/96–Present. *Version 2:* 1/90–12/95.

Learning Outcomes: *Version 1:* Upon completion of the course, the student will be able to use a dry suit and mixed gas underwater breathing apparatus. *Version 2:* Upon completion of the course, the student will be able to use a dry suit and mixed gas underwater breathing apparatus.

Instruction: *Version 1:* Lectures, practical exercises, and written and underwater performance examinations cover the use of dry suit and mixed gas apparatus to dive to depths of 300 feet. *Version 2:* Lectures and practical exercises use dry suit and mixed gas apparatus to dive to depths of 300 feet.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in advanced scuba diving (8/97). *Version 2:* In the lower-division baccalaureate/associate degree category, 2 semester hours in diving—mixed gas (7/91).

NV-2202-0157

EXPLOSIVE ORDNANCE DISPOSAL PHASE 2 (NAVY), CLASS C1

Course Number: A-431-0011.

Location: Explosive Ordnance School, Indian Head, MD.

Length: 28 weeks (1120 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify, recover, evaluate, and dispose of all conventional surface and underwater explosive ordnance and nuclear ordnance.

Instruction: Lectures, practical exercises, and testing cover ground ordnance, guided missiles, bombs and bomb fuses, and render safe and disposal procedures for nuclear and conventional ordnance. Also includes protective clothing, proficiency diving, knots and rigging, underwater towing techniques, and torpedoes and mines.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 6 semester hours in introduction to explosives in a police science program (7/91).

NV-2202-0158

5"/38 Caliber Gun Operation and Maintenance, Class C

Course Number: J-113-0100.

Location: Fleet Combat Training Center, Yorktown, VA.

Length: 8 weeks (233 hours).

Exhibit Dates: 1/91–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate and describe the maintenance procedures for a 5"/38 caliber gun.

Instruction: Lectures and practical exercises cover gun operation and maintenance.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0159

Mk 38 Mod 0 25mm Machine Gun Operation and Maintenance

Course Number: K-041-2236.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 1-2 weeks (56 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the functional components and corrective maintenance procedures for a machine gun system.

Instruction: Lectures and practical exercises cover the machine gun system.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0160

Vertical Launch Tomahawk Weapon Control System Operator

Course Number: J-121-0516.

Location: Fleet Training Center, San Diego, CA; Fleet Combat Training Center, Dam Neck, Virginia Beach, VA.

Length: 8 weeks (320 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the components of the weapon system and their function and describe the theory necessary to support system operation.

Instruction: Lectures and practical exercises cover system use, data base files, system capabilities, and system engagement.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0161

Antisubmarine Warfare (ASW) Scene of Action

Course Number: J-2G-0554.

Location: Fleet Antisubmarine Training Center, Norfolk, VA.

Length: 1-2 weeks (74 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe how to use various sound velocity data for range prediction; describe the mission of the carrier antisubmarine warfare (ASW) module; describe ASW platforms, sensors, and weapons; identify and use NATO ASW communications circuits; describe aircraft operating environments; and describe submarine tactics.

Instruction: Methods of instruction include lecture with visual aids, site visitation, discussion, and participation in actual work scenarios.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0162

Naval Control of Shipping

Course Number: J-8C-0523.

Location: Fleet Antisubmarine Warfare Training Center, Norfolk, VA.

Length: 2-3 weeks (66 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the requirements of the naval control of shipping organization, describe merchant vessel boarding procedures, describe port captain and marine safety officer duties, identify convoy formations and routing systems, plan convoy routes, describe communications procedures, and identify merchant ship reporting and control operation messages.

Instruction: Methods of instruction include lectures with slides and practical application. Performance is evaluated by written examination. Topics include security, history of convoys, shipping organization, boarding procedures, Coast Guard role in shipping, sailing folders, and communications.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0163

Convoy Commodore and Staff Officer

Course Number: J-1B-0526.

Location: Fleet Antisubmarine Training Center, Norfolk, VA.

Length: 2-3 weeks (72 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe naval control of shipping, convoy formation planning, civil direction of shipping, nontactical communications, Soviet surveillance systems, mine warfare, sortie and entry operations, submarine and air threat, and convoy sailing folder.

Instruction: Lectures, slides, and practical problems cover the above subject areas.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0164

Naval Control of Shipping Advanced

Course Number: J-1B-0528.

Location: Antisubmarine Training Center, Oakland, CA; Fleet Antisubmarine Training Center, Norfolk, VA.

Length: 2 weeks (73 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe Naval control of shipping procedures, analyze convoy training and pilot requirements, describe atmospheric and environmental convoy routing factors, and describe operational security.

Instruction: Lectures with slides cover relevant publications, tugs and pilots, civil direction of shipping, environmental routing, shipping responsibilities, and operational security.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/91).

NV-2202-0165

Recruit Training
(Basic Training)

Course Number: *Version 1:* X777-7770. *Version 2:* X-777-7770.

Location: *Version 1:* Recruit Training Command, Great Lakes, IL. *Version 2:* Recruit Training Command, Great Lakes, IL; Recruit Training Command, Orlando, FL; Recruit Training Command, San Diego, CA.

Length: *Version 1:* 8 weeks (169 hours). *Version 2:* 8-9 weeks (367-480 hours).

Exhibit Dates: *Version 1:* 1/95–Present. *Version 2:* 10/91–12/94.

Learning Outcomes: *Version 1:* Upon completion of the course, the recruit will demonstrate knowledge of general military and Navy protocol, first aid, personal health and safety, basic swimming, fire fighting and damage control, seamanship, and water survival skills and will meet prescribed standards for physical fitness. *Version 2:* Before 10/91 see NV-2202-0014. Upon completion of the course, the recruit will demonstrate knowledge of general military and Navy protocol, first aid, personal health, safety, basic swimming, fire fighting, and water survival skills and will meet prescribed standards for physical fitness.

Instruction: *Version 1:* Course includes lectures, demonstrations, and performance exercises in military protocol and drill, seamanship, fire fighting, first aid, safety, health, and physical conditioning. *Version 2:* Course includes lectures, demonstrations, and performance exercises in military protocol and drill, seamanship, fire fighting, first aid, safety, health, and physical conditioning.

Credit Recommendation: *Version 1:* In the lower-division baccalaureate/associate degree category, 1 semester hour in personal fitness/conditioning, 1 in personal/community health, and 1 in first aid and safety (5/95). *Version 2:* In the lower-division baccalaureate/associate degree category, 1 semester hour in personal fitness/conditioning, 1 in personal/community health, and 1 in first aid and safety (3/92).

NV-2202-0166

Naval and Marine Aviation Electronic Warfare Officer

Course Number: C-2D-3810.

Location: Technical Training Center, Corry Station, Pensacola, FL.

Length: 12 weeks (393-394 hours).

Exhibit Dates: 6/92–Present.

Learning Outcomes: Upon completion of the course, the student will be able to identify the stages of a basic receiver; describe the applications, advantages, and disadvantages of various ESM intercept equipment; correctly log and analyze intercept signals; and determine the threats within a complex signal environment.

Instruction: Laboratory assignments are used to reinforce material taught in the classroom. Topics covered are Soviet land-based, shipboard, and airborne systems; US electronic warfare systems; ESM operations; and free world electronic warfare systems.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (2/93).

NV-2202-0167

AV-88B 25mm Gun System Intermediate Maintenance

Course Number: C-646-3889.

Location: Air Maintenance Training Group, Cherry Point, NC.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to service, repair, test, and troubleshoot a 25mm gun system.

Instruction: Course covers the theory of operation of 25mm gun system including basic gun operation and safety concerns during servicing and maintenance of ammunition-handling system. Methodology includes lectures and laboratories using demonstrations on mock-ups and live gun systems.

Credit Recommendation: Credit is not recommended because of military-specific nature of the course (7/94).

NV-2202-0168

Aviation Ordnance Munitions Technician Intermediate Maintenance

Course Number: C-646-4107.

Location: Air Maintenance Training Group, Cherry Point, NC; Air Maintenance Training Group, El Toro, CA.

Length: 3-4 weeks (152 hours).

Exhibit Dates: 5/94–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe airborne weapons, their components and functions and test, disassemble, inspect, and reassemble equipment on the intermediate maintenance level.

Instruction: Course covers aviation ordnance munitions, airborne weapons systems, ordnance safety, ammunition management, and explosive ordnance disposal. Methodology includes classroom lectures and practical exercises.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (7/94).

NV-2202-0170

Fire Support Man

Course Number: K-041-0014.

Location: Expeditionary Warfare Training Group, Pacific, San Diego, CA.

Length: 2 weeks (96 hours).

Exhibit Dates: 12/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to perform as a naval gunfire spotter.

Instruction: Lectures and practical exercises cover naval gunfire missions, targeting, fire control, battle assessment, and communications.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/97).

NV-2202-0171

Seaman Apprentice

Course Number: A-950-0070.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 5/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to become an active and participating member of the ships crew and demonstrate various skills and knowledge.

Instruction: Group paced lecture, laboratory demonstrations, and performance exercises on visual signaling, lookout watches, types of buoys, knots and splices, mooring lines, deck fittings and equipment, boat etiquette, and passenger safety.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/97).

NV-2202-0172

Mine Hunter Coastal Machinery/Ship Control System Operators

Course Number: A-651-0122.

Location: Service School Command, Great Lakes, IL.

Length: 2 weeks (80 hours).

Exhibit Dates: 1/97–Present.

Learning Outcomes: Upon completion of the course, the student will be able to describe the theory and associated documentation needed to support the performance and operation of a machinery/ship control system; support and understand the performance of casualty/degraded/abnormal operation without going into detailed mechanical breakdown of the machinery/ship control system.

Instruction: Review of knowledge and skills needed to operate shipboard propulsion engineering control consoles and automatic control systems on board the coastal mine sweeper class ships.

Credit Recommendation: Credit is not recommended because of the limited, specialized nature of the course (10/97).

NV-2202-0173

Airman Apprentice

Course Number: A-950-0069.

Location: Service School Command, Great Lakes, IL.

Length: 3 weeks (100 hours).

Exhibit Dates: 10/96–Present.

Learning Outcomes: Upon completion of the course, the student will be able to become an active and participating member of the ships crew and demonstrate various skills and knowledge.

Instruction: Group-paced lectures, laboratory demonstrations, and performance exercises on rating designations, duties, specialty marks, theory of flight, aircraft nomenclature, aircraft identification, types of aircraft carriers, responsibilites of flight deck personnel, and aircraft fuel types.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (10/97).

NV-2203-0143

Poseidon Mk 3 Reentry System Tender Transfer and Handling

Course Number: A-644-0018.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 3-4 weeks (144 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to handle and transfer missiles between a submarine and a submarine surface tender.

Instruction: Lectures and practical exercises cover the handing of the Poseidon missile.

Credit Recommendation: Credit is not recommended because of the limited, technical nature of the course (6/89).

NV-2204-0001

Officer Candidate

Course Number: P-9B-2000.

Location: Air Station, Pensacola, FL.

Length: 13 weeks (590 hours).

Exhibit Dates: 9/96–Present.

Learning Outcomes: Upon completion of the course, the student will possess a basic orientation to a naval career, including military training; knowledge of naval history and warfare; military law; navigation, seamanship, and damage control; engineering; applied naval leadership; personnel administration; and professional development and perform physical fitness, swimming, and water survival.

Instruction: Lectures, laboratory, practical exercises, written tests, and performance examinations cover the essential subjects for qualification as a naval officer.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in physical education (physical fitness, swimming, and water survival), 3 in naval science, 2 in naval history (sea power), and 2 in navigation (8/97); in the upper-division baccalaureate category, 3 semester hours in leadership and personnel administration (8/97).

NV-2204-0002

Direct Commission Officer Indoctrination Class PC

Course Number: Q-9B-0024.

Location: Air Station, Pensacola, FL.

Length: 2 weeks (88-89 hours).

Exhibit Dates: 12/91–Present.

Learning Outcomes: Upon completion of the course, the new commissioned officer will demonstrate knowledge of naval customs; courtesies; paygrade structure; career paths, safety aboard ship; and all levels of leadership, naval history, naval strategy and operations, and security.

Instruction: Lecture, laboratory, and written examinations are used to evaluate performance.

Credit Recommendation: Credit is not recommended because of the military-specific nature of the course (4/98).

NV-2205-0001

Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon

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System Navigation Officer Replacement

Course Number: A-2G-0027.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 6 weeks (240 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to apply basic inertial navigation theory and direct the operation and maintenance of a ship's inertial navigation guidance system.

Instruction: Lectures and practical exercises cover inertial navigation and the subsystems which make up an inertial navigation system, including gyroscope principles, coordinate systems, torquing, azimuth alignment, and drift prediction.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic navigation (6/89).

NV-2205-0002

Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem

Course Number: A-193-0394.

Location: Guided Missiles School, Dam Neck, Virginia Beach, VA.

Length: 4-5 weeks (178 hours).

Exhibit Dates: 1/90–Present.

Learning Outcomes: Upon completion of the course, the student will be able to operate the ESGM backfit navigation subsystem as well as maintain and calibrate the system.

Instruction: Instruction includes classroom and laboratory work on principles of navigation, operating principles of navigation equipment, and basic preventive maintenance of the equipment.

Credit Recommendation: In the lower-division baccalaureate/associate degree category, 3 semester hours in basic navigation (6/89).

Navy Enlisted Ratings Exhibits

NER-AB-002

Aviation Boatswain's Mate, Master Chief
ABCM

Exhibit Dates: 1/90–Present.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

May progress from ABHCS, Senior Chief Aviation Boatswain's Mate, Aircraft Handling (E-8); ABFCS, Senior Chief Aviation Boatswain's Mate, Fuels (E-8); or ABECS, Senior Chief Aviation Boatswain's Mate, Launching and Recovery Equipment (E-8).

Description

Able to perform the duties required for ABECS, ABFCS, or ABHCS; formulates guidelines for use in safety inspections; monitors compliance with operational evaluation procedures; establishes and maintains liaison with allied support activities as well as lower and upper echelon; makes necessary modifications to safety procedures; establishes goals and priorities; reviews personnel, equipment, and material requirements; prepares staff studies; develops budgets, monitors expenditures, and develops forecasts of future requirements.

Recommendation

In the lower-division baccalaureate/associate degree category, if the individual progressed from ABECS, use the credit recommendation in exhibit NER-AB-001 (in the 1954-1989 Guide) or NER-ABE-002; if progressed from ABFCS, use the credit recommendation in exhibit NER-AB-001 (in the 1954-1989 Guide) or NER-ABF-002; if progressed from ABHCS, use the recommendation in exhibit NER-AB-001 (in the 1954-1989 Guide) or NER-ABH-002. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers. (3/91).

NER-ABE-002

Aviation Boatswain's Mate, Launching and
Recovery Equipment
ABE3
ABE2
ABE1
ABEC
ABECS

Exhibit Dates: 1/90–8/96.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). ABE3: Aviation Boatswain's Mate, Launching and Recovery Equipment, Third Class (E-4). ABE2: Aviation Boatswain's Mate, Launching and Recovery Equipment, Second Class (E-5). ABE1: Aviation Boatswain's Mate, Launching and Recovery Equipment, First Class (E-6). ABEC: Chief Aviation Boatswain's Mate, Launching and Recovery Equipment (E-7). ABECS: Senior Chief Aviation Boatswain's Mate, Launching and Recovery Equipment (E-8). *ABCM:* Master Chief Aviation Boatswain's Mate (E-9).

Description

Summary: Operates and maintains hydraulic and steam catapults, barricades, and arresting gear; operates catapult launch, retract panels, consoles, firing panels, water brakes, chronographs, blast deflectors, and cooling panels; inspects and proof-loads cables, fittings, and wire rope socket. *ABE3:* Inspects and lubricates launch and recovery equipment; replaces packing and seals on catapults and arresting gear; rigs and install barricades; performs planned maintenance on arresting gear and arresting gear engines; operates and maintains jet blast deflectors; determines safe working loads for hoisting materials, wire rope, manila lines, nylon lines, and webbing; uses maintenance cards; completes maintenance records. *ABE2:* Able to perform the duties required for ABE3; inspects, tests, and adjusts catapults and related equipment; tests, adjusts, and calibrates arresting gear and barricades; supervises personnel on aircraft launch hookup; inventories equipment and spare parts; orders spare parts and special tools. *ABE1:* Able to perform the duties required for ABE2; disassembles, replaces defective parts, and reassembles catapult systems, arresting gear engines, and accessories; prepares data for equipment logs; supervises the use of maintenance publications; maintains custody records. *ABEC:* Able to perform the duties required for ABE1; supervises the use, filing, and maintenance of publications and records; screens defective components for repair; inspects and evaluates operation of repaired equipment; monitors quality assurance program; prepares quarterly schedules of preventive maintenance; supervises the inventory of spare parts and equipment. *ABECS:* Able to perform the duties required for ABEC; develops and implements preventive maintenance and quality assurance programs; administers long-range planned maintenance program; establishes and implements programs for personnel interviewing, evaluation, and assignment; evaluates safety and inspection programs; establishes and implements training programs.

Recommendation, ABE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals (3/91).

Recommendation, ABE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics, and 1 in personnel supervision (3/91).

Recommendation, ABE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics, 2 in maintenance management, 2 in personnel supervision, and 1 in records and information management (3/91).

Recommendation, ABEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics, 3 in maintenance management, 3 in personnel supervision, and 2 in records and information management (3/91).

Recommendation, ABECS

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics, 3 in maintenance management, 3 in personnel supervision, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-ABE-003

Aviation Boatswain's Mate, Launching and
Recovery Equipment
ABE3
ABE2
ABE1
ABEC
ABECS

Exhibit Dates: 9/96–Present.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). ABE3: Aviation Boatswain's Mate, Launching and Recovery Equipment, Third Class (E-4). ABE2: Aviation Boatswain's Mate, Launching and Recovery Equipment, Second Class (E-5). ABE1: Aviation Boatswain's Mate, Launching and Recovery Equipment, First Class (E-6). ABEC: Chief Aviation Boatswain's Mate, Launching and Recovery Equipment (E-7). ABECS: Senior Chief Aviation Boatswain's Mate, Launching and Recovery Equipment (E-8). *ABCM:* Master Chief Aviation Boatswain's Mate (E-9).

Description

Summary: Operates and maintains hydraulic and steam catapults, barricades, and arresting gear; operates catapult launch, retract panels, consoles, firing panels, water brakes, chronographs, blast deflectors, and cooling panels; inspects and does dynamic testing of cables, fittings, and wire rope socket. *ABE3:* Inspects and lubricates launch and recovery equipment; replaces packing and seals on catapults and arresting gear; rigs and installs barricades; performs planned maintenance on arresting gear and arresting gear engines; operates and maintains jet blast deflectors; determines safe working loads for hoisting materials, wire rope, manila lines, nylon lines, and webbing; uses maintenance cards; completes maintenance records. *ABE2:* Able to perform the duties required for ABE3; inspects, tests, and adjusts catapults and related equipment; tests, adjusts, and calibrates arresting gear and barricades; supervises personnel on aircraft launch hookup; inventories equipment and spare parts; orders spare parts and special tools. *ABE1:* Able to perform the duties required for ABE2; disassembles, replaces defective parts, and reassembles catapult systems, arresting gear engines, and accessories; prepares data for equipment logs; supervises the use of maintenance publications; maintains custody records. *ABEC:* Able to perform the duties required for ABE1; supervises the use, filing, and maintenance of publications and records; screens defective components for repair; inspects and evaluates operation of repaired equipment; monitors quality assurance program; prepares quarterly schedules of preventive maintenance; supervises the inventory for spare parts and equipment. *ABECS:* Able to perform the duties required for ABEC; develops and implements preventive maintenance and quality assurance programs; administers long-range planned maintenance program; establishes and implements programs for personnel interviewing, evaluation, and assignment; evaluates safety and inspection programs; establishes and implements training programs.

Recommendation, ABE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals (10/96).

Recommendation, ABE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics and pneumatics, 3 in computer applications, and 1 in personnel supervision (10/96).

Recommendation, ABE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics and pneumatics, 2 in maintenance management, 2 in personnel supervision, and 3 in computer applications (10/96).

Recommendation, ABEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics and pneumatics, 3 in maintenance management, 3 in personnel supervision, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours for a management internship (10/96).

Recommendation, ABECS

In the lower-division baccalaureate/associate degree category, 3 semester hours in mechanical fundamentals, 3 in basic hydraulics and pneumatics, 3 in maintenance management, 3 in personnel supervision, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for a management internship (10/96).

NER-ABF-002

AVIATION BOATSWAIN'S MATE, FUELS
ABF3
ABF2
ABF1
ABFC
ABFCS

Exhibit Dates: 1/90–8/96.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). ABF3: Aviation Boatswain's Mate, Fuels, Third Class (E-4). ABF2: Aviation Boatswain's Mate, Fuels, Second Class (E-5). ABF1: Aviation Boatswain's Mate, Fuels, First Class (E-6). ABFC: Chief Aviation Boatswain's Mate, Fuels (E-7). ABFCS: Senior Chief Aviation Boatswain's Mate, Fuels (E-8). *ABCM:* Master Chief Aviation Boatswain's Mate (E-9).

Description

Summary: Operates, maintains, and repairs fueling and lubricating oil systems, including service stations, pump rooms, pumps, piping, valves, tanks, and protective piping systems; operates equipment associated with the fueling and defueling of aircraft aboard ship and ashore; operates motor-driven fueling equipment; maintains fuel quality; trains, directs, and supervises fire fighting crews and fire rescue teams; follows fuel-handling safety precautions. *ABF3:* Operates damage control and fire fighting equipment; serves as a member of an aviation fuel damage control repair party; performs maintenance record keeping; uses portable inertness analyzers; aligns valves in fuel piping systems for various operations; fuels and defuels aircraft; obtains samples of aviation fuels and tests for water and solid contaminants; knows the properties and hazards of aviation fuels; makes entries in pump room logs and records; uses maintenance record cards; operates crash fire fighting and mobile fueling and lubricating oil equipment; uses and maintains hand tools and portable power tools; completes forms; conducts inventories; uses blueprints, charts, drawings, and publications. *ABF2:* Able to perform the duties required for ABF3; replaces components of aviation fuel and lubricating oil systems; conducts tests on fuel filter elements; operates solid contamination detectors and water free detectors; inventories, orders, and accounts for spare repair parts; supervises crews in the fueling and defueling of aircraft. *ABF1:* Able to perform the duties required for ABF2; analyzes and instructs personnel in malfunctions of aviation fuel system test equipment, aviation fuel and lubricating oil systems, and the nitrogen distribution system and determines corrective action; maintains fuel and lubricating oil inventory records; calibrates, adjusts, tests, cleans, and flushes aviation fuel and lubricating oil systems; knows the principles and maintenance requirements of centrifugal purifiers; trains subordinates in the operation of fuel systems and test equipment; prepares weekly maintenance schedules; maintains inventory and supply records; supervises flight, hangar, and below decks fueling and system operations. *ABFC:* Able to perform the duties required for ABF1; supervises inspection, operation, maintenance, and repair of aviation fuel systems; monitors procedures for maintaining quality control; prepares quarterly maintenance schedules; responsible for materials and supplies for organizational unit; supervises inspection procedures to ensure that technical specifications and standards of workmanship are met; inspects and evaluates the operation of repaired or newly installed parts and components of aviation fuel systems and related equipment. *ABFCS:* Able to perform the duties required for ABFC; develops and implements preventive maintenance and quality assurance programs; implements and maintains aviation fuel quality assurance programs; implements and maintains aviation fuel quality control procedures; administers long range planning for interviewing, evaluating, and assigning personnel; organizes and schedules training programs; provides technical assistance as required; conducts general administrative duties, including reports, correspondence, directives, and instructions.

Recommendation, ABF3

In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation support operations (aircraft fuel and oil, storage systems, fire fighting, and aircraft servicing) (3/91).

Recommendation, ABF2

In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation support operations (aircraft fuel and oil, storage systems, fire fighting, and aircraft servicing) and1 in personnel supervision (3/91).

Recommendation, ABF1

In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation support operations (aircraft fuel and oil, storage systems, fire fighting, and aircraft servicing), 2 in personnel supervision, 2 in records and information management, and 2 in maintenance management (servicing and equipment) (3/91).

Recommendation, ABFC

In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation support operations (aircraft fueld and oil, storage systems, fire fighting, and aircraft servicing), 3 in personnel supervision, 3 in records and information management, and 3 in maintenance management (servicing and equipment). In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for field experience in management (3/91).

Recommendation, ABFCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in aviation support operations (aircraft fuel and oil, storage systems, fire fighting, and aircraft servicing), 3 in personnel supervision, 3 in records and information management, and 3 in maintenance management (servicing and equipment). In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-ABF-003

AVIATION BOATSWAIN'S MATE, FUELS
ABF3
ABF2
ABF1
ABFC
ABFCS

Exhibit Dates: 9/96–Present.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). ABF3: Aviation Boatswain's Mate, Fuels, Third Class (E-4). ABF2: Aviation Boatswain's Mate, Fuels, Second Class (E-5). ABF1: Aviation Boatswain's Mate, Fuels, First Class (E-6). ABFC: Chief Aviation Boatswain's Mate, Fuels (E-7). ABFCS: Senior Chief Aviation Boatswain's Mate, Fuels (E-8). *ABCM:* Master Chief Aviation Boatswain's Mate (E-9).

Description

Summary: Operates, maintains, and repairs fueling and lubricating oil systems, including service stations, pump rooms, pumps, piping, valves, tanks, and protective piping systems; operates equipment associated with the fueling and defueling of aircraft aboard ship and ashore; operates motor-driven fueling equipment; maintains fuel quality; handles hazardous materials and maintains environmental standards; trains, directs, and supervises fire fighting crews and fire rescue teams; follows fuel-handling safety precautions. *ABF3:* Operates damage control and fire fighting equipment; serves as a member of an aviation fuel damage control repair party; performs maintenance record keeping; uses portable inertness analyzers; aligns valves in fuel piping systems for various operations; fuels and defuels aircraft; obtains samples of aviation fuels and tests for water and solid contaminants; applies knowledge of the properties and hazards of aviation fuels; makes entries in pump room logs and records; uses maintenance record cards; operates crash fire fighting and mobile fueling and lubricating oil equipment; uses and maintains hand tools and portable power tools; completes forms; conducts inventories; uses blueprints, charts, drawings, and publications. *ABF2:* Able to perform the duties required for ABF3; replaces components of aviation fuel and lubricating oil systems; conducts tests on fuel filter elements; operates solid contamination detectors and water-free detectors; inventories, orders, and accounts for spare repair parts; supervises crews in the fueling and defueling of aircraft; performs personnel evaluations of subordinates. *ABF1:* Able to perform the duties required for ABF2; analyzes and instructs personnel in malfunctions of aviation fuel system test equipment, aviation fuel and lubricating oil systems, and the nitrogen distribution system and determines corrective action; maintains fuel and lubricating oil inventory records; calibrates, adjusts, tests, cleans, and flushes aviation fuel and lubricating oil systems; applies principles to maintain centrifugal purifiers; trains subordinates in the operation of fuel systems and test equipment; prepares weekly maintenance schedules; maintains inventory and supply records; supervises flight, hangar, and below decks fueling and system operations; conducts quality control and safety inspections; evaluates subordinate work center personnel. *ABFC:* Able to perform the duties required for ABF1; supervises inspection, operation, maintenance, and repair of aviation fuel systems; monitors procedures for maintaining quality control; prepares quarterly maintenance schedules; responsible for materials and supplies for organizational unit; supervises inspection procedures to ensure that technical specifications and standards of workmanship are met; inspects and evaluates the operation of repaired or newly installed parts and components of aviation fuel systems and related equipment; conducts gas-free testing of tanks and other storage containers before internal repairs commence; evaluates subordinates; uses computers in fuel quality control and in administrative actions. *ABFCS:* Able to perform the duties required for ABFC; develops and implements preventive maintenance and quality assurance programs; implements and maintains aviation fuel quality assurance programs; administers long-range planning for interviewing, evaluating, and assigning personnel; organizes and schedules training programs; provides technical assistance as required; performs general administrative duties, including writing reports, correspondence, directives, and instructions; uses computers.

Recommendation, ABF3

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science (10/96).

Recommendation, ABF2

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 2 in aircraft support systems, and 1 in personnel supervision (10/96).

Recommendation, ABF1

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 2 in aircraft support systems, 2 in personnel supervision, 3 in computer applications, 2 in maintenance management (servicing and equipment), and 1 in environmental science (10/96).

Recommendation, ABFC

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 3 in personnel supervision, 3 in computer applications, 3 in maintenance management (servicing and equipment), and 2 in environmental science. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for a management internship (10/96).

Recommendation, ABFCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 2 in aircraft support systems, 3 in personnel supervision, 3 in computer applications, 3 in maintenance management (servicing and equipment), and 2 in environmental science. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for a management internship (10/96).

NER-ABH-002

AVIATION BOATSWAIN'S MATE, AIRCRAFT HANDLING
ABH3
ABH2
ABH1
ABHC
ABHCS

Exhibit Dates: 1/90–8/96.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). ABH3: Aviation Boatswain's Mate, Aircraft Handling, Third Class (E-4). ABH2: Aviation Boatswain's Mate, Aircraft Handling, Second Class (E-5). ABH1: Aviation Boatswain's Mate, Aircraft Handling, First Class (E-6). ABHC: Chief Aviation Boatswain's Mate, Aircraft Handling (E-7). ABHCS: Senior Chief Aviation Boatswain's Mate, (E-8). *ABCM:* Master Chief Aviation Boatswain's Mate (E-9).

Description

Summary: Directs the movement and spotting of aircraft ashore and afloat; operates and maintains ground handling equipment used for moving and hoisting aircraft; supervises securing of aircraft and equipment; performs crash rescue, fire fighting, crash removal, and damage control; performs duties in connection with launching and recovering aircraft. *ABH3:* Carries out cockpit emergency entry procedures; knows procedures for rescuing personnel from crashed aircraft; operates damage control equipment, lifesaving apparatus, and fire and elevator doors; supervises movement and spotting of aircraft ashore and afloat; secures aircraft and equipment; performs preventive operator maintenance on aircraft ground handling equipment; operates and performs daily inspections on mobile crash handling vehicles and equipment; installs aircraft hoisting slings involved with emergency crash landings; computes safe working load for hoisting material; rigs deck equipment on shore-based arresting gears; operates aircraft cranes, elevator controls, and related hangar/deck equipment; provides signals for the launching and recovery of helicopters; performs air terminal functions, including storage of cargo, handling of passengers, aircrew, and aircraft services; completes maintenance records. *ABH2:* Able to perform the duties required for ABH3; directs part of a crew involved in repairing damage to flight and hangar decks; spots aircraft for catapult launching; tests hangar sprinkler systems; reads and interprets blueprints and drawings; inventories installed equipment and spare parts; orders spare parts and special tools; uses maintenance publications. *ABH1:* Able to perform the duties required for ABH2; directs a crew involved in repairing damaged flight and hangar decks; directs a unit of a deck, water, or land crash fire and rescue group; keeps logs pertaining to test data and equipment history; determines type and use of emergency equipment for removing crashed or damaged aircraft; prepares weekly schedules of preventive maintenance; maintains inventories and custody records; reeves cables on ship's boat and airplane crane; interprets aircraft spotting and respotting procedures; interprets procedures and equipment requirements for jettisoning aircraft and equipment. *ABHC:* Able to perform the duties required for ABH1; plans spotting of aircraft on flight and hangar decks; conducts prelaunch briefings of plane directors; directs the movement and plotting of aircraft during launching, landing, and respotting aboard aircraft carriers; prepares quarterly schedules of preventive maintenance; supervises inspection procedures for quality control; screens defective components for feasibility of repair; supervises storage, inventory, and replacement of spare parts and equipment; supervises the use and maintenance of publications and records. *ABHCS:* Able to perform the duties required for ABHC; administers air terminal operations; develops and implements preventive maintenance, quality control program, and aircraft surveillance procedures; administers long-range maintenance programs; manages program of evaluating and assigning personnel; monitors effectiveness of safety and inspection programs; provides advice on proper utilization of capabilities and reliability of aircraft handling procedures; reviews and writes efficiency reports, directives, and general correspondence; assists in accident investigations; organizes training programs.

Recommendation, ABH3

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire fighting and 2 in aircraft ground handling and operations (3/91).

Recommendation, ABH2

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire fighting, 2 in aircraft ground handling and operations, and 1 in personnel supervision (3/91).

Recommendation, ABH1

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire fighting, 3 in aircraft ground handling and operations, 2 in personnel supervision, 2 in maintenance management, and 2 in records and information management (3/91).

Recommendation, ABHC

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire fighting, 3 in aircraft ground handling and operations, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for field experience in management (3/91).

Recommendation, ABHCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire fighting, 3 in aircraft ground handling and operations, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-ABH-003

AVIATION BOATSWAIN'S MATE, AIRCRAFT HANDLING
ABH3
ABH2
ABH1
ABHC
ABHCS

Exhibit Dates: 9/96–Present.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). ABH3: Aviation Boatswain's Mate, Aircraft Handling, Third Class (E-4). ABH2: Aviation Boatswain's Mate, Aircraft Handling, Second Class (E-5). ABH1: Aviation Boatswain's Mate, Aircraft Handling, First Class (E-6). ABHC: Chief Aviation Boatswain's Mate, Aircraft Handling (E-7). ABHCS: Senior Chief Aviation Boatswain's Mate, Aircraft Handling (E-8). *ABCM:* Master Chief Aviation Boatswain's Mate (E-9).

Description

Summary: Directs the movement and spotting of aircraft ashore and afloat; operates and maintains ground handling equipment used for moving and hoisting aircraft; supervises securing of aircraft and equipment; performs crash rescue, fire fighting, crash removal, and damage control; performs duties in connection with launching and recovering aircraft. *ABH3:* Carries out cockpit emergency entry procedures; applies procedures for rescuing personnel from crashed aircraft; operates damage control equipment, lifesaving apparatus, and fire and elevator doors; supervises movement and spotting of aircraft ashore and afloat; secures aircraft and equipment; performs preventive operator maintenance on aircraft ground handling equipment; operates and performs daily inspections on mobile crash handling vehicles and equipment; installs aircraft hoisting slings involved with emergency crash landings; computes safe working load for hoisting material; rigs deck equipment on shore-based arresting gears; operates aircraft cranes, elevator controls, and related hangar/deck equipment; provides signals for the launching and recovery of helicopters; performs air terminal functions, including storage of cargo, handling of passengers, aircrew, and aircraft services; completes maintenance records. *ABH2:* Able to perform the duties required for ABH3; directs part of a crew involved in repairing damage to flight and hangar decks; spots aircraft for catapult launching; tests hangar sprinkler systems; reads and interprets blueprints and drawings; inventories installed equipment and spare parts; orders spare parts and special tools; uses maintenance publications; leads team engaged in personnel rescue and fire fighting operations; supervises operation lifesaving apparatus. *ABH1:* Able to perform the duties required for ABH2; directs a crew involved in repairing damaged flight and hangar decks; directs a unit of a deck, water, or land crash fire and rescue group; keeps logs pertaining to test data and equipment history; determines type and use of emergency equipment for removing crashed or damaged aircraft; prepares weekly schedules of preventive maintenance; maintains inventories and custody records; reeves cables on ship's boat and airplane crane; interprets aircraft spotting and respotting procedures; interprets procedures and equipment requirements for jettisoning aircraft and equipment; writes personnel evaluation reports. *ABHC:* Able to perform the duties required for ABH1; plans spotting of aircraft on flight and hangar decks; conducts prelaunch briefings of plane directors; directs the movement and plotting of aircraft during launching, landing, and respotting aboard aircraft carriers; prepares quarterly schedules of preventive maintenance; supervises inspection procedures for quality control; screens defective components for feasibility of repair; supervises storage, inventory, and replacement of spare parts and equipment; supervises the use and maintenance of publications and records; evaluates subordinates. *ABHCS:* Able to perform the duties required for ABHC; administers air terminal operations; develops and implements preventive maintenance program, quality control program, and aircraft security procedures; administers long-range maintenance programs; manages program of evaluating and assigning personnel; monitors effectiveness of safety and inspection programs; provides advice on proper utilization of capabilities and reliability of aircraft handling procedures; reviews and writes efficiency reports, directives, and general correspondence; assists in accident investigations; organizes training programs.

Recommendation, ABH3

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science and 2 in aircraft ground handling and operations (10/96).

Recommendation, ABH2

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 2 in aircraft ground handling and operations, and 1 in personnel supervision (10/96).

Recommendation, ABH1

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 3 in aircraft ground handling and operations, 2 in personnel supervision, 2 in maintenance management, and 3 in computer applications (10/96).

Recommendation, ABHC

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 3 in aircraft ground handling and operations, 3 in personnel supervision, 3 in maintenance management, and 3 in computer applications. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for a management internship (10/96).

Recommendation, ABHCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire science, 3 in aircraft ground handling and operations, 3 in personnel supervision, 3 in maintenance management, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for a management internship (10/96).

NER-AC-001

AIR TRAFFIC CONTROLLER
(Air Controlman)
AC3
AC2
AC1
ACC
ACCS
ACCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 7 (Air Traffic Control).

Career Pattern

AN: Airman (E-3). *AC3:* Air Controlman, Third Class (E-4). *AC2:* Air Controlman, Second Class (E-5). *AC1:* Air Controlman, First Class (E-6). *ACC:* Chief Air Controlman (E-7). *ACCS:* Senior Chief Air Controlman (E-8). *ACCM:* Master Chief Air Controlman (E-9).

Description

Summary: Performs air traffic control duties in air control towers, radar air traffic control facilities, and air operations offices; directs aircraft under VFR and IFR conditions. *AC3:* Interprets FAA regulations pertaining to air traffic control; directs air traffic under visual flight rules; records instrument flight rule clearances and relays to aircraft; issues instructions to vehicular traffic on the airfield and to aircraft on the ground relative to taxiing, parking, and related airport information; issues instructions to fire, crash, and rescue equipment for emergency landings, crashes, and accidents; identifies airfield markings and lighting systems; effects radar handoff; carries out nonradar control of aircraft experiencing emergencies in flight; interprets effect of weather and topography on the operating capability of radar, IFF, and related equipment; maintains flight data and status boards; processes flight plans; controls aircraft using precision approach radar; drafts and processes air traffic control data by teletype/interphone; operates communications equipment and airfield lighting systems; obtains and relays weather information to aircraft and local weather facilities; checks calibration and adjusts radar indicators; identifies and monitors electronic aids to air navigation; uses standard aeronautical charts and publications for air navigation. *AC2:* Carries out radar control of aircraft experiencing emergencies in flight; assigns and evaluates IFF/SIF codes; controls aircraft using air surveillance radar; directs air traffic under instrument flight rules; locates, identifies, and tracks aircraft; interprets characteristics, purposes, and general operating procedures of landing approach systems; applies minimums applicable to IFR approaches and departures and special VFR operations; maintains air traffic operations logs and records; orders charts and publications. *AC1:* Supervises procedures used by control tower personnel; coordinates functions of radar air traffic control; applies holding pattern criteria; carries out training program for air traffic control facility personnel; maintains logs, publications, files, and records applicable to air traffic control facilities; inventories, requisitions, and accounts for air traffic control equipment. *ACC:* Supervises radar air traffic control operations; supervises ATC facility flight checks; conducts emergency drills for air traffic control personnel; supervises the air traffic control facility training program; prepares air traffic control facility reports; interprets and disseminates FAA regulations governing the operations of air traffic control facilities; supervises the use, filing, and maintenance of publications, logs, and records. *ACCS:* Serves as air traffic control facility watch officer; coordinates ATC facility flight checks; reviews and verifies facility compliance with standards for approach zone criteria, obstruction lighting, and field marking; organizes, schedules, and evaluates training program; establishes required inspection procedures; coordinates maintenance of air traffic control facility equipment; manages, coordinates, and evaluates safety programs and emergency drills; prepares local directives and instructions; prepares correspondence; interviews, assigns, and evaluates personnel; plans and organizes runway use and noise abatement programs; submits air traffic control facility reports. *ACCM:* Prepares and interprets letters of agreement, directives, and memoranda applicable to air traffic control; develops operating budgets and monitors expenditures; reviews personnel, equipment, and material requirements and forecasts future needs; establishes goals and sets priorities; plans, organizes, implements, and controls air traffic control activities.

Recommendation, AC3

In the lower-division baccalaureate/associate degree category, 6 semester hours in air traffic control, 6 in air traffic management, and 3 in federal aviation regulations (2/77).

Recommendation, AC2

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, and 3 in federal aviation regulations (2/77).

Recommendation, AC1

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 1 in personnel supervision, and 1 in record keeping (2/77).

Recommendation, ACC

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 2 in aviation safety management, 2 in personnel supervision, and 2 in record keeping (2/77).

Recommendation, ACCS

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 3 in personnel supervision, 3 in aviation safety management, 2 in record keeping, 2 in aviation facility management, and 2 in technical report writing. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/77).

Recommendation, ACCM

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 3 in personnel supervision, 3 in aviation safety management, 2 in record keeping, 2 in aviation facility management, and 2 in technical report writing. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in organization and planning, and 3 in management problems (2/77).

NER-AC-002

AIR TRAFFIC CONTROLLER
AC3
AC2
AC1
ACC
ACCS
ACCM

Exhibit Dates: 1/91–Present.

Occupational Field: 7 (Air Traffic Control).

Career Pattern

AN: Airman (E-3). *AC3:* Air Controlman, Third Class (E-4). *AC2:* Air Controlman, Second Class (E-5). *AC1:* Air Controlman, First Class (E-6). *ACC:* Chief Air Controlman (E-7). *ACCS:* Senior Chief Air Controlman (E-8). *ACCM:* Master Chief Air Controlman (E-9).

Description

Summary: Performs air traffic control duties in air control towers, radar air traffic control facilities, and air operations offices; directs aircraft under VFR and IFR conditions. *AC3:* Interprets FAA regulations pertaining to air traffic control; directs air traffic under visual flight rules; records instrument flight rules clearances and relays clearances to aircraft; issues instructions to vehicular traffic on the airfield and to aircraft on the ground relative to taxiing, parking, and related airport information; issues instructions to fire, crash, and rescue equipment for emergency landings, crashes, and accidents; identifies airfield markings and lighting systems; effects radar handoff; carries out nonradar control of aircraft experiencing emergencies in flight; interprets effect of weather and topography on the operating capability of radar, IFF, and related equipment; maintains flight data and status boards; processes flight plans; controls aircraft using precision approach radar; drafts and processes air traffic control data by teletype/interphone; operates communications equipment and airfield lighting systems; obtains and relays weather information to aircraft and local weather facilities; checks calibration and adjusts radar indicators; identifies and monitors electronic aids to air navigation; uses standard aeronautical charts and publications for air navigation. *AC2:* Able to perform the duties required for AC3; carries out radar control of aircraft experiencing emergencies in flight; assigns and evaluates IFF/SIF codes; controls aircraft using air surveillance radar; directs air traffic under instrument flight rules; locates, identifies, and tracks aircraft; interprets characteristics, purposes, and general operating procedures of landing approach systems; applies minimums applicable to IFR approaches and departures and special VFR operations; maintains air traffic operations logs and records; orders charts and publications. *AC1:* Able to perform the duties required for AC2; supervises procedures used by control tower personnel; coordinates functions of radar air traffic control; applies holding pattern criteria; carries out training program for air traffic control facility personnel; maintains logs, publications, files, and records applicable to air traffic control facilities; inventories, requisitions, and accounts for air traffic control equipment. *ACC:* Able to perform the duties required for AC1; supervises radar air traffic control operations; supervises ATC facility flight checks; conducts emergency drills for air traffic control personnel; supervises the air traffic control facility training program; prepares air traffic control facility reports; interprets and disseminates FAA regulations governing the operations of air traffic control facilities; supervises the use, filing, and maintenance of publications, logs and records. *ACCS:* Able to perform the duties required for ACC; serves as air traffic control facility watch officer; coordinates ATC facility flight checks; reviews and verifies facility compliance with standards for approach zone criteria, obstruction lighting, and field marking; organizes, schedules, and evaluates training program; establishes required inspection procedures; coordinates maintenance of air traffic control facility equipment; manages, coordinates, and evaluates safety programs and emergency drills; prepares local directives and instructions; prepares correspondence; interviews, assigns, and evaluates personnel; plans and organizes runway use and noise abatement programs; submits air traffic control facility reports. *ACCM:* Able to perform the duties required for ACCS; prepares and interprets letters of agreement, directives, and memoranda applicable to air traffic control; develops operating budgets and monitors expenditures; reviews personnel, equipment, and material requirements and forecasts future needs; establishes goals and sets priorities; plans, organizes, implements, and controls air traffic control activities.

Recommendation, AC3

In the lower-division baccalaureate/associate degree category, 3 semester hours in air traffic control, 3 in air traffic management, and 3 in federal aviation regulations (3/91).

Recommendation, AC2

In the lower-division baccalaureate/associate degree category, 6 semester hours in air traffic control, 6 in air traffic management, and 3 in federal aviation regulations (3/91).

Recommendation, AC1

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 1 in personnel supervision, and 1 in records and information management (3/91).

Recommendation, ACC

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 2 in personnel supervision, 2 in records and information management, and 2 in aviation safety (3/91).

Recommendation, ACCS

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 3 in personnel supervision, 2 in records and information management, 3 in aviation safety, 2 in technical writing, and 2 in aviation facility management. In the upper-division baccalaureate category, 3 semester hours for field experience in management (3/91).

Recommendation, ACCM

In the lower-division baccalaureate/associate degree category, 9 semester hours in air traffic control, 6 in air traffic management, 3 in federal aviation regulations, 3 in personnel supervision, 2 in records and information management, 3 in aviation safety, 2 in technical writing, and 2 in aviation facility management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in management problems, and 3 in human resource management (3/91).

NER-AD-002

Aviation Machinist's Mate, Senior Chief
ADCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress from either ADC, Chief Aviation Machinist's Mate, (E-7), or ADRC, Chief Aviation Machinist's Mate, Reciprocating Engine Mechanic (E-7). *ADCS:* Senior Chief Aviation Machinist's Mate (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

See exhibit NER-AD-003 for AD3, AD2, AD1, and ADC. Manages, supervises, and administers power plant work centers; plans safety program pertaining to aircraft power plants, related equipment, and work centers; interprets maintenance instructions and directives; ensures that established procedures are followed for conducting ground tests and inspections to maintain desired quality level; applies quality control concepts; evaluates repair requirements and requests technical assistance from contract representatives, as needed; determines capabilities, limitations, and reliability of aircraft power plants and related systems; administers long-range planned maintenance program; organizes, schedules, and evaluates training programs; prepares local directives and instructions; prepares correspondence.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in safety management and 3 in principles of administration; add the credit recommended for either ADC (Chief Aviation Machinist's Mate) in exhibit NER-AD-003, or ADRC (Chief Aviation Machinist's Mate, Reciprocating Engine Mechanic) in exhibit NER-ADR-001 (in the 1954-1989 Guide), as appropriate. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in management problems, 3 in quality control, and 3 in human relations (5/79).

NER-AD-003

Aviation Machinist's Mate
AD3
AD2
AD1
ADC

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AD3:* Aviation Machinist's Mate, Third class (E-4). *AD2:* Aviation Machinist's Mate, Second Class (E-5). *AD1:* Aviation Machinist's Mate, First Class (E-6). *ADC:* Chief Aviation Machinist's Mate (E-7). *ADCS:* Senior Chief Aviation Machinist's Mate (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains aircraft engines and related systems, including the induction, cooling, fuel, oil, compression, combustion, turbine, airborne gas turbine compressors, and exhaust systems; conducts engine and related systems inspections. *AD3:* Replaces gaskets, packing, and seals in fuel and oil systems; performs fuel and oil pressure adjustments; adjusts idle mixture and idle speed; cleans helicopter transmissions, gearboxes, rotor heads, drive shafts, and related parts; removes, inspects, and installs external fuel tanks; removes and installs ignitor plugs, spark plugs, starting ignition units, and leads of ignition and starting systems; inspects aircraft fuel systems and fuel samples for contamination; removes, cleans, and replaces fuel and oil filters; uses technical publications; services aircraft on the flight line; performs operational checks of new or overhauled engines installed in aircraft; uses and maintains hand tools. *AD2:* Able to perform the duties required for AD3; installs, removes, and operates jet calibration test units; diagnoses defects in fuel and oil systems; rigs and adjusts power controls, fuel selectors, and shutoff valve controls; inspects, removes, and installs helicopter tail rotor transmissions and rotary wing heads and components; inspects compressors for proper axial and radial clearances; preserves and depreserves aircraft power plants and related systems; performs cylinder changes and valve clearance adjustments; installs and times magnetos; installs carburetors; installs and adjusts propeller controls; inspects, removes, and installs auxiliary power plant and components; performs periodic aircraft inspections; orders technical publications, directives, and manuals; is a first-line supervisor of a three to seven person work group. *AD1:* Able to perform the duties required for AD2; troubleshoots malfunctions in power plant systems; removes and installs bladder and self-sealing fuel cells; inspects, removes, and installs helicopter intermediate gearboxes, tail rotors, swash plates and pitch link rods; supervises use of ground support equipment peculiar to power plants and related systems; orders power plant parts, equipment, material, and tools maintains inventory records; supervises training of subordinates maintaining power plants and related systems; supervises aircraft inspections; inspects installation and evaluates operation of repaired or newly installed power plants and power plant system components; prepares weekly schedules of preventive maintenance; maintains shop files of technical publications, directives, and manuals; supervises medium-sized (10-30 persons) work centers. *ADC:* Able to perform the duties required for AD1; supervises use of engine service maintenance and test equipment; determines types of information to be recorded in each section of the aircraft log book and aeronautical equipment service record; recommends changes to maintenance instructions; analyzes reports of aircraft engine malfunctions and discrepancies and determines corrective action; analyzes inspection procedures to ensure that specifications and standards of workmanship are met; supervises scheduling of work at power plant work centers; determines feasibility of local repairs to components of power plants and related systems; prepares quarterly schedules of preventive maintenance; orders, inventories, and accounts for quick-engine-change kits and spare engines; disposes of engines removed from service; estimates power plant spare parts, equipment, supplies, and manpower requirements.

Recommendation, AD3

In the lower-division baccalaureate/associate degree category, 12 semester hours in aircraft engine maintenance and repair and 3 in aviation maintenance technology (5/79).

Recommendation, AD2

In the lower-division baccalaureate/associate degree category, 15 semester hours in aircraft engine maintenance and repair, 6 in aviation maintenance technology, and 2 personnel supervision (5/79).

Recommendation, AD1

In the lower-division baccalaureate/associate degree category, 15 semester hours in aircraft engine maintenance and repair, 6 in aviation maintenance technology, 3 in personnel supervision, and 2 in maintenance management (5/79).

Recommendation, ADC

In the lower-division baccalaureate/associate degree category, 15 semester hours in aircraft engine maintenance and repair, 6 in aviation maintenance technology, 3 in personnel supervision, 3 in maintenance management, and 3 in shop management. In the upper-division baccalaureate category, 3 semester hours for field experience in management (5/79).

NER-AD-004

Aviation Machinist's Mate
AD3
AD2
AD1
ADC
ADCS

Exhibit Dates: 1/91–10/97.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). *AD3:* Aviation Machinist's Mate, Third Class (E-4). *AD2:* Aviation Machinist's Mate, Second Class (E-5). *AD1:* Aviation Machinist's Mate, First Class (E-6). *ADC:* Chief Aviation Machinist's Mate (E-7). *ADCS:* Senior Chief Aviation Machinist's Mate (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains aircraft engines and related systems, including the induction, cooling, fuel, oil, compression, combustion, turbine, airborne gas turbine compressors, and exhaust systems; conducts engine and related systems inspections. *AD3:* Replaces gaskets, packing, and seals in fuel and oil systems; performs fuel and oil pressure adjustments; adjusts idle mixture and idle speed; cleans helicopter transmissions, gearboxes, rotor heads, drive shafts, and related parts; removes, inspects, and installs external fuel tanks; removes and installs ignitor plugs, sparks plugs, starting ignition units, and leads of ignition and starting systems; inspects aircraft fuel systems and fuel samples for contamination; removes, cleans, and replaces fuel and oil filters; uses technical publications; services aircraft on the flight line; performs operational tune-ups of new or overhauled engines installed in aircraft; uses and maintain hand tools. *AD2:* Able to perform the duties required for AD3; installs, removes, and operates jet calibration test units; diagnoses defects in fuel and oil systems; rigs and adjusts power controls, fuel selectors, and shutoff valve controls; inspects, removes, and installs helicopter tail rotor transmissions and rotary wing heads and components; inspects compressors for proper axial and radial clearances; preserves and depreserves aircraft power plants and related systems; performs cylinder changes and valve clearance adjustments; installs and times magnetos; installs carburetors; installs and adjusts propeller controls; inspects, removes, and installs and adjusts propeller controls; inspects, removes, and installs auxiliary power plant and components; performs periodic aircraft inspections; orders technical publications, directives, and manuals; is a first-line supervisor of a three to seven person work group. *AD1:* Able to perform the duties required for AD2; troubleshoots malfunctions in power plant systems; removes and installs bladder and self-sealing fuel cells; inspects, removes, and installs helicopter intermediate gearboxes, tail rotors, swash plates and pitch link rods; supervises use of ground support equipment peculiar to power plants and related systems; orders power plant parts, equipment, material, and tools; maintains inventory records; supervises training of subordinates maintaining power plants and related systems; supervises aircraft inspections; inspects installation and evaluates operation of repaired or newly installed power plants and power plant system components; prepares weekly schedules of preventive maintenance; maintains shop files of technical publications, directives, and manuals; supervises medium-sized (10-30 persons) work centers. *ADC:* Able to perform the duties required for AD1; supervises use of engine service maintenance and test equipment; determines types of information to be recorded in each section of the aircraft log book and aeronautical equipment service record; recommends changes to maintenance instructions; analyzes reports of aircraft engine malfunctions and discrepancies and determines corrective action; analyzes inspection procedures to ensure that specifications and standards of workmanship are met; supervises scheduling of work at power plant work centers; determines feasibility of local repairs to components of power plants and related systems; prepares quarterly schedules of preventive maintenance; orders, inventories, and accounts for quick-engine-change kits and spare engines; disposes of engines removed from service; estimates power plant spare parts, equipment, supplies, and manpower requirements. *ADCS:* Able to perform the duties required for ADC; manages, supervises, and administers power plant work centers; plans safety program pertaining to aircraft power plants, related equipment, and work centers; interprets maintenance instructions and directives; ensures the established procedures are followed for conducting ground tests and inspections to maintain desired quality level; applies quality control concepts; evaluates repair requirements and requests technical assistance from contract representatives, as needed; determines capabilities, limitations, and reliability of aircraft power plants and related systems; administers long-range planned maintenance program; organizes, schedules, and evaluates training programs; prepares local directives and instructions; prepares correspondence.

Recommendation, AD3

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft jet engine maintenance, 3 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), and 3 in basic aircraft maintenance (3/91).

Recommendation, AD2

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 1 in basic helicopter drive system maintenance, and 1 in personnel supervision (3/91).

Recommendation, AD1

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 2 in basic helicopter drive system maintenance, 2 in personnel supervision, 2 in aircraft maintenance management, and 2 in records and information management (3/91).

Recommendation, ADC

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 2 in basic helicopter drive system maintenance, 3 in personnel supervision, 3 in aircraft maintenance management, and 2 in records and information management (3/91).

Recommendation, ADCS

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 2 in basic helicopter drive system maintenance, 3 in personnel supervision, 3 in aircraft maintenance management, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in organizational management (3/91).

NER-AD-005

Aviation Machinist's Mate
AD3
AD2
AD1
ADC
ADCS

Exhibit Dates: 11/97–Present.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). *AD3:* Aviation Machinist's Mate, Third Class (E-4). *AD2:* Aviation Machinist's Mate, Second Class (E-5). *AD1:* Aviation Machinist's Mate, First Class (E-6). *ADC:* Chief Aviation Machinist's Mate (E-7). *ADCS:* Senior Chief Aviation Machinist's Mate (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains aircraft engines and related systems, including the induction, cooling, fuel, oil, compression, combustion, turbine, airborne gas turbine compressor, and exhaust systems; conducts engine and related systems inspections. *AD3:* Replaces gaskets, packing, and seals in fuel and oil systems; performs fuel and oil pressure adjustments; adjusts idle mixture and idle speed; cleans helicopter transmissions, gearboxes, rotor heads, drive shafts, and related parts; removes, inspects, and installs external fuel tanks; removes and installs ignitor plugs, sparks plugs, starting ignition units, and leads of ignition and starting systems; inspects aircraft fuel systems and fuel samples for contamination; removes, cleans, and replaces fuel and oil filters; uses technical publications; services aircraft on the flight line; performs operational tune-ups of new or overhauled engines installed in aircraft; uses and maintain hand tools; uses management information systems for troubleshooting; is a first line supervisor of a 3-7 person work group. *AD2:* Able to perform the duties required for AD3; installs, removes, and operates jet calibration test units; diagnoses defects in fuel and oil systems; rigs and adjusts power controls, fuel selectors, and shutoff valve controls; inspects, removes, and installs helicopter tail rotor transmissions and rotary wing heads and components; inspects compressors for proper axial and radial clearances; preserves and depreserves aircraft power plants and related systems; performs cylinder changes and valve clearance adjustments; installs and times magnetos; installs carburetors; installs and adjusts propeller controls; inspects, removes, and installs and adjusts propeller controls; inspects, removes, and installs auxiliary power plant and components; performs periodic aircraft inspections; orders technical publications, directives, and manuals; supervises medium sized (10-30 person) work centers.. *AD1:* Able to perform the duties required for AD2; troubleshoots malfunctions in power plant systems; removes and installs bladder and self-sealing fuel cells; inspects, removes, and installs helicopter intermediate gearboxes, tail rotors, swash plates and pitch link rods; supervises use of ground support equipment peculiar to power plants and related systems; orders power plant parts, equipment, material, and tools; maintains inventory records; supervises training of subordinates maintaining power plants and related systems; supervises aircraft inspections; inspects installation and evaluates operation of repaired or newly installed power plants and power plant system components; uses management information systems to prepare weekly schedules of preventive maintenance; maintains shop files of technical publications, directives, and manuals. *ADC:* Able to perform the duties required for AD1; supervises use of engine service maintenance and test equipment; determines types of information to be recorded in each section of the aircraft log book and aeronautical equipment service record; recommends changes to maintenance instructions; analyzes reports of aircraft engine malfunctions and discrepancies and determines corrective action; analyzes inspection procedures to ensure that specifications and standards of workmanship are met; supervises scheduling of work at power plant work centers; determines feasibility of local repairs to components of power plants and related systems; prepares quarterly schedules of preventive maintenance; orders, inventories, and accounts for quick-engine-change kits and spare engines; disposes of engines removed from service; estimates power plant spare parts, equipment, supplies, and manpower requirements; uses management information systems for systems analysis. *ADCS:* Able to perform the duties required for ADC; manages, supervises, and administers power plant work centers; plans safety program pertaining to aircraft power plants, related equipment, and work centers; interprets maintenance instructions and directives; ensures the established procedures are followed for conducting ground tests and inspections to maintain desired quality level; applies quality control concepts; evaluates repair requirements and requests technical assistance from contract representatives, as needed; determines capabilities, limitations, and reliability of aircraft power plants and related systems; administers long-range planned maintenance program; organizes, schedules, and evaluates training programs; prepares local directives and instructions; prepares correspondence.

Recommendation, AD3

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft jet engine maintenance, 3 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance; 1 in management information systems, and 1 in personnel supervision (11/97).

Recommendation, AD2

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 1 in basic helicopter drive system maintenance, 1 in maintenance information systems, and 2 in personnel supervision (11/97).

Recommendation, AD1

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 2 in basic helicopter drive system maintenance, 3 in personnel supervision, 2 in aircraft maintenance management, and 2 in management information systems (11/97).

Recommendation, ADC

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 2 in basic helicopter drive system maintenance, 3 in personnel supervision, 3 in aircraft maintenance management, and 3 in management information systems (11/97).

Recommendation, ADCS

In the lower-division baccalaureate/associate degree category, 9 semester hours in aircraft jet engine maintenance, 4 in aircraft jet engine systems maintenance (propeller, fuel, and exhaust), 3 in basic aircraft maintenance, 2 in basic helicopter drive system maintenance, 3 in personnel supervision, 3 in aircraft maintenance management, and 3 in management information systems. In the upper-division baccalaureate category, 6 semester hours for field experience in management (11/97).

NER-AE-002

Aviation Electrician's Mate
AE3
AE2
AE1
AEC
AECS

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). *AE3:* Aviation Electrician's Mate, Third Class (E-4). *AE2:* Aviation Electrician's Mate, Second Class (E-5). *AE1:* Aviation Electrician's Mate, First Class (E-6). *AEC:* Chief Aviation Electrician's Mate (E-7). *AECS:* Senior Chief Aviation Electrician's Mate (E-8). *AECM:* Master Chief Aviation Electrician's Mate (E-9).

Description

Summary: Maintains and repairs electrical, instrument, and power systems on aircraft, including power generation, conversion, and distribution systems; aircraft systems, including hydraulic, landing gear, flight control, utility, and power plant and related systems; instrument systems, including aircraft engine, flight, and other indicating and warning systems; automatic flight control and stabilization systems; aircraft compass systems; attitude reference systems; and inertial navigation systems. Duty assignments are designated as either O-Level (troubleshooting and replacing modular systems on aircraft) or I-Level (disassembling, repairing, and bench testing modules); persons assigned the AE rating receive equivalent training and must pass the same advancement examination, regardless of whether duty assignments have been O-Level, I-Level, or both. *AE3:* Troubleshoots and repairs electrical and instrument systems on aircraft; follows standard checkout procedures to locate and repair electrical malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter and oscilloscope; repairs inertial navigation systems; measures voltage, current, and resistance; calibrates temperature sensing system; completes maintenance forms and inventories parts and supplies; performs avionics corrosion control. *AE2:* Able to perform the duties required for AE3; performs troubleshooting and repair tasks not covered in standard service manuals; uses oscilloscope, signal generators, and frequency counters; may have attended short training programs in troubleshooting and repairing specialized equipment; serves as crew leader, supervising two to four persons on a job; interprets technical directives; maintains technical library and inventory and training records; performs periodic aircraft inspections. *AE1:* Able to perform the duties required for AE2; serves as shift supervisor, supervising eight to nine persons; diagnoses nonroutine malfunctions and demonstrates repair techniques; interprets electrical and electronic schematics and drawings and makes simplified versions; conducts on-the-job training program; inspects and approves completed work assignments; prepares weekly schedules of preventive maintenance; supervises technical library; supervises and directs aircraft inspections; directs installation of aircraft electrical modifications; writes technical reports; prepares personnel efficiency reports. *AEC:* Able to perform the duties required for AE1; serves as shop supervisor, supervising 15-20 persons; plans and implements safety instruction and inspection programs; evaluates aircraft electrical systems and equipment test procedures and recommends improvements; prepares maintenance duty schedules; prepares periodic or recurring reports; supervises the use and file maintenance of publications, logs, and records; interprets technical publications pertaining to aircraft electrical systems and test equipment; prepares quarterly schedules of preventive maintenance; supervises quality control program; provides technical assistance in aircraft accident investigations. *AECS:* Able to perform the duties required for AEC; may oversee three shops; serves as liaison with other Navy units; administers quality control programs; prepares directives, instructions, and correspondence; advises on personnel, production, material, and training requirements; administers long-range planned maintenance program and training programs and evaluates their effectiveness; recommends changes in methods and techniques to promote safety and operational readiness.

Recommendation, AE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/ electronic laboratory, 2 in AC/DC theory, 3 in electrical test instruments, and 3 in electrical schematic interpretation (6/87).

Recommendation, AE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/ electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, and 3 in electrical schematic interpretation (6/87).

Recommendation, AE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/ electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (6/87).

Recommendation, AEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management and 1 in shop management (6/87).

Recommendation, AECS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, and 3 for field experience in management (6/87).

NER-AE-003

Aviation Electrician's Mate

AE3
AE2
AE1
AEC
AECS
AECM

Exhibit Dates: 1/91–8/96.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AE3:* Aviation Electrician's Mate, Third Class (E-4). *AE2:* Aviation Electrician's Mate, Second Class (E-5). *AE1:* Aviation Electrician's Mate, First Class (E-6). *AEC:* Chief Aviation Electrician's Mate (E-7). *AECS:* Senior Chief Aviation Electrician's Mate (E-8). *AECM:* Master Chief Aviation Electrician's Mate (E-9).

Description

Summary: Maintains and repairs electrical, instrument, and power systems on aircraft, including power generation, conversion, and distribution systems; aircraft systems, including hydraulic, landing gear, flight control, utility, and power plant and related systems; instrument systems, including aircraft engine, flight, and other indicating and warning systems; automatic flight control and stabilization systems; aircraft compass systems; attitude reference systems; and inertial navigation systems. Duty assignments are designated as either O-Level (troubleshooting and replacing modular systems on aircraft) or I-Level (disassembling, repairing, and bench-testing modules); persons assigned the AE rating receive equivalent training and must pass the same advancement examination, regardless of whether duty assignments have been O-Level, I-Level, or both. *AE3:* Troubleshoots and repairs electrical and instrument systems on aircraft; follows standard checkout procedures to locate and repair electrical malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter and oscilloscope; repairs inertial navigation systems; measures voltage, current, and resistance; calibrates temperature sensing system; completes maintenance forms and inventories parts and supplies; performs avionics corrosion control. *AE2:* Able to perform the duties required for AE3; performs troubleshooting and repair tasks not covered in standard service manuals; uses oscilloscope, signal generators, and frequency counters; may have attended short training programs in troubleshooting and repairing specialized equipment; serves as crew leader, supervising two to four persons on a job; interprets technical directives; maintains technical library and inventory and training records; performs periodic aircraft inspections. *AE1:* Able to perform the duties required for AE2; serves as shift supervisor, supervising eight-nine persons; diagnoses nonroutine malfunctions and demonstrates repair techniques; interprets electrical and electronic schematics and drawings and approves completed work assignments; prepares weekly schedules of preventive maintenance; supervises technical library; supervises and directs aircraft inspections; directs installation of aircraft electrical changes; writes technical reports and prepares personnel efficiency reports. *AEC:* Able to perform the duties required for AE1; serves as shop supervisor, supervising 15-20 persons; plans and implements safety instruction and inspection programs; evaluates aircraft electrical systems and equipment test procedures and recommends improvements; prepares maintenance duty schedules; prepares periodic or recurring reports; supervises the use and file maintenance of publications, logs, and records; interprets technical publications pertaining to aircraft electrical systems and test equipment; prepares quarterly schedules of preventive maintenance; supervises quality control program; provides technical assistance in aircraft accident investigations. *AECS:* Able to perform the duties required for AEC; may oversee three shops; serves as liaison with other Navy units; administers quality control programs; prepares directives, instructions, and correspondence; advises on personnel, production, material, and training requirements; administers long-range planned maintenance program and training programs and evaluates their effectiveness; recommends changes in methods and techniques to promote safety and operational readiness. *AECM:* Able to perform the duties required for AECS; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; establishes goals and priorities; reviews and evaluates personnel, equipment, and material requirements; prepares maintenance plans and staff studies for management review; exercises techniques of aircraft maintenance and personnel management; develops and implements preventive maintenance, corrosion control, and quality assurance programs; develops operating budget and monitors expenditures.

Recommendation, AE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 2 in AC/DC theory, 3 in electrical test instruments, and 3 in electrical schematic interpretation (6/87).

Recommendation, AE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, and 3 in electrical schematic interpretation (6/87).

Recommendation, AE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (6/87).

Recommendation, AEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management and 1 in shop management (6/87).

Recommendation, AECS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, and 3 for field experience in management (6/87).

Recommendation, AECM

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 3 in electrical test instruments, 3 in electrical schematic interpretation, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 3 in shop management, 6 for field experience in management, and 3 in management problems (6/87).

NER-AE-004

Aviation Electrician's Mate

AE3
AE2
AE1
AEC
AECS

Exhibit Dates: 9/96–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AE3:* Aviation Electrician's Mate, Third Class (E-4). *AE2:* Aviation Electrician's Mate, Second Class (E-5). *AE1:* Aviation Electrician's Mate, First Class (E-6). *AEC:* Chief Aviation Electrician's Mate (E-7). *AECS:* Senior Chief Aviation Electrician's Mate (E-8). *AVCM:* Master Chief Avionics Technician (E-9).

Description

Summary: Maintains and repairs electrical, instrument, and power systems on aircraft, including power generation, conversion, and distribution systems; aircraft systems, including hydraulic, landing gear, flight control, utility, and power plant and related systems; instrument systems, including aircraft engine, flight, and other indicating and warning systems; automatic flight control and stabilization systems; aircraft compass systems; attitude reference systems; inertial navigation systems; uses computers in all aspects of work; uses limited pollution control concepts. Duty assignments are designated as either O-Level (troubleshooting and replacing modular systems on aircraft) or I-Level (disassembling, repairing, and benchtesting modules); persons assigned the AE rating receive equivalent training and must pass the same advancement examination, regardless of whether duty assignments have been O-Level, I-Level, or both. *AE3:* Troubleshoots and repairs electrical and instrument systems on aircraft; follows standard checkout procedures to locate and repair electrical malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter and oscilloscope; repairs inertial navigation systems; measures voltage, current, and resistance; calibrates temperature sensing system; completes maintenance forms and inventories parts and supplies; performs avionics corrosion control. *AE2:* Able to perform the duties required for AE3; performs troubleshooting and repair tasks not covered in standard service manuals; uses oscilloscope, signal generators, and frequency counters; serves as crew leader, supervising two to four persons on a job; interprets technical directives; maintains technical library and inventory and training records; performs periodic aircraft inspections; uses personal computer. *AE1:* Able to perform the duties required for AE2; serves as shift supervisor, supervising eight-nine persons; diagnoses nonroutine malfunctions and demonstrates repair techniques; interprets electrical and electronic schematics and drawings and approves completed work assignments; prepares weekly schedules of preventive maintenance; supervises technical library; supervises and directs aircraft inspections; directs installation of aircraft electrical changes; writes technical reports and prepares personnel efficiency reports. *AEC:* Able to perform the duties required for AE1; serves as shop supervisor, supervising 15-20 persons; plans and implements safety instruction and inspection programs; evaluates aircraft electrical systems and equipment test procedures and recommends improvements; prepares maintenance duty schedules; prepares periodic or recurring reports; supervises the use and file maintenance of publications, logs, and records; interprets technical publications pertaining to aircraft electrical systems and test equipment; prepares quarterly schedules of preventive maintenance; supervises quality control program; provides technical assistance in aircraft accident investigations. *AECS:* Able to perform the duties required for AEC; may oversee three shops; serves as liaison with other Navy units; administers quality control programs; prepares directives, instructions, and correspondence; advises on personnel, production, material, and training requirements; administers long-range planned maintenance program and training programs and evaluates their effectiveness; recommends changes in methods and techniques to promote safety and operational readiness.

Recommendation, AE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 2 in AC/DC theory, 2 in electrical test instruments, 3 in electrical troubleshooting, 1 in electrical safety fundamentals, and 1 in pollution control (10/96).

Recommendation, AE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 2 in electrical test instruments, 3 in electrical troubleshooting, 1 in electrical safety fundamentals, 1 in pollution control, and 3 in computer applications (10/96).

Recommendation, AE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 2 in electrical test instruments, 3 in electrical troubleshooting, 1 in electrical safety fundamentals, 1 in pollution control, 3 in computer applications, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (10/96).

Recommendation, AEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 2 in electrical test instruments, 3 in electrical troubleshooting, 1 in electrical safety fundamentals, 1 in pollution control, 3 in computer applications, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management, 1 in shop management, and 2 for a management internship (10/96).

Recommendation, AECS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electrical/electronic laboratory, 3 in AC/DC theory, 2 in electrical test instruments, 3 in electrical troubleshooting, 1 in electrical safety fundamentals, 1 in pollution control, 3 in computer applications, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, 3 in logistics management, and 2 for a management internship (10/96).

NER-AF-001

Aircraft Maintenanceman, Master Chief
AFCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress to AFCM, Master Chief Aircraft Maintenanceman (E-9), from either ADCS, Senior Chief Aviation Machinist's Mate (E-8) or AMCS, Senior Chief Aviation Structural Mechanic (E-8).

Description

Able to perform the duties required for either ADCS (Senior Chief Aviation Machinist's Mate) or AMCS (Senior Chief Aviation Structural Mechanic); assists in statistical analyses of aircraft accident reports; formulates guidelines for safety inspections and instructions; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; reviews and evaluates personnel, equipment, and material requirements; administers inventory, requisition, receipt, and transfer procedures for aircraft and components; monitors implementation of preventive maintenance program; serves as liaison with other Navy units; reviews and evaluates inspection records, quality control reports, and flight records to ensure that proper maintenance procedures are followed; prepares staff studies and reports; develops operating budgets and monitors expenditures.

Recommendation

In the lower-division baccalaureate/associate degree category, if the individual progressed from ADCS (Senior Chief Aviation Machinist's Mate), use the credit recommendation in exhibit NER-AD-001 (in the 1954—1989 Guide) or AMCS (Senior Chief Aviation Structural Mechanic) in exhibit NER-AM-001, as appropriate, and additional credit as follows: 3 semester hours in technical writing and 3 in management electives. In the upper-division baccalaureate category, 6 semester hours for a practicum in management, 3 in management problems, 3 in human relations, and additional credit in quality control on the basis of institutional evaluation (2/77).

NER-AF-002

Aircraft Maintenanceman, Master Chief
AFCM

Exhibit Dates: 1/91–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress to AFCM, Master Chief Aircraft Maintenanceman (E-9), from either ADCS, Senior Chief Aviation Machinist's Mate (E-8), or AMCS, Senior Chief Aviation Structural Mechanic (E-8).

Description

Able to perform the duties required for either ADCS (Senior Chief Aviation Machinist's Mate) or AMCS (Senior Chief Aviation Structural Mechanic); assists in statistical analyses of aircraft accident reports; formulates guidelines for safety inspections and instructions; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; reviews and evaluates personnel, equipment, and material requirements; administers inventory, requisition, receipt, and transfer procedures for aircraft and components; monitors implementation of preventive maintenance program; serves as liaison with other Navy units; reviews and evaluates inspection records, quality assurance reports, and flight records to ensure that proper maintenance procedures are followed; prepares staff studies and reports; develops operating budgets and monitors expenditures.

Recommendation

In the lower-division baccalaureate/associate degree category, if the individual progressed from AMCS, use the credit recommended in exhibit NER-AM-001 or NER-AM-002; if progressed from ADCS, use the credit recommended in exhibit NER-AD-001 (in the 1954-1989 Guide), NER-AD-002, or NER-AD-004, as appropriate. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (3/91).

NER-AG-001

Aerographer's Mate
AG3
AG2
AG1
AGC
AGCS
AGCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 23 (Meteorology).

Career Pattern

AN: Airman (E-3). *AG3:* Aerographer's Mate, Third Class (E-4). *AG2:* Aerographer's Mate, Second Class (E-5). *AG1:* Aerographer's Mate, First Class (E-6). *AGC:* Chief Aerographer's Mate (E-7). *AGCS:* Senior Chief Aerographer's Mate (E-8). *AGCM:* Master Chief Aerographer's Mate (E-9).

Description

Summary: Observes, collects, records, and analyzes meteorological and oceanographic data; makes visual and instrument observations of weather and sea conditions. *AG3:* Identifies the types and knows the purposes of instruments and equipment used by the Weather Service; operates equipment and performs routine checks and operator preventive maintenance on meteorological and oceanographic equipment and instruments; observes, collects, records, and prepares for transmission surface meteorological elements; plots synoptic surface charts using aviation observations, constant pressure charts, data from environmental warnings and advisories, and skew T, Log P diagrams; determines tracking data from meteorological satellite predict messages; applies grid to meteorological satellite pictures; operates radio receivers and facsimile and teletype equipment; uses publications and directives related to weather communications. *AG2:* Able to perform the duties required for AG3; checks surface observations for accuracy prior to transmission; applies meteorological fundamentals of primary, secondary, and tertiary circulations of the earth's atmosphere and of types of weather associated with air masses, frontal systems, and anticyclonic systems in drawing weather charts; identifies physical properties of sea water and major current systems and water masses of the ocean; constructs radiological fallout plot from upper wind data; draws synoptic surface charts showing frontal systems, isobars, isallobars, and pressure centers; draws constant-pressure charts showing isohypses, troughs, ridges, and height centers; interprets oceanographic charts; computes astronomical and tidal data; maintains directives, publications, and climatological records; orders, inventories, and disposes of meteorological and oceanographic equipment, instruments, and supplies. *AG1:* Able to perform the duties required for AG2; prepares short-range (up to 24 hours) environmental forecasts; identifies and classifies weather echoes on radar; computes atmospheric refractive index; analyzes and uses skew T, Log P diagrams in preparing environmental forecasts; prepares and presents weather data for local and extended flights; identifies charts and related products from digital computers; performs calibrations and adjustments to meteorological and oceanographic equipment (excluding electronic components). *AGC:* Able to perform the duties required for AG1; interprets ocean thermal structure and factors affecting underwater transmission of sound, wind wave, swell generation, and propagation in preparing oceanographic forecasts; analyzes and uses constant pressure charts, streamline charts, surface charts, satellite data, and sea condition charts in preparing environmental forecasts; constructs and verifies prognostic surface and constant pressure charts; prepares environmental warnings and advisories; assigns tasks to personnel assigned to weather service units; trains subordinates in correct operating and maintenance procedures for assigned equipment. *AGCS:* Able to perform the duties required for AGC; evaluates recent meteorological and oceanographic developments for integration into local routines; provides climatological, meteorological, and oceanographic data at planning-level meetings; organizes, schedules, and evaluates training programs; administers technical publications library; prepares directives and instructions for attaining organizational objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, assigning, and evaluating personnel. *AGCM:* Able to perform the duties required for AGCS; prepares statistical analyses of climatological data and provides information concerning its uses, capabilities, and limitations; reviews personnel, equipment, and material requirements and forecasts future requirements; establishes goals and set priorities; develops operating budgets and monitors expenditures.

Recommendation, AG3

In the lower-division baccalaureate/associate degree category, 2 semester hours in meteorology and 2 in meteorology laboratory (2/77).

Recommendation, AG2

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 2 in meteorology laboratory, and 1 in oceanography (2/77).

Recommendation, AG1

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 2 in climatology, and 1 in oceanography. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics (2/77).

Recommendation, AGC

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 2 in oceanography, and 1 in personnel supervision. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics (2/77).

Recommendation, AGCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 3 in oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics and 1 in measurements and data systems (2/77).

Recommendation, AGCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 3 in oceanography, 3 in personnel supervision, and 3 in principles of administration. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics, 2 in measurement and data systems, 3 in weather station management, and 3 in management problems (2/77).

NER-AG-002

Aerographer's Mate
AG3
AG2
AG1
AGC
AGCS
AGCM

Exhibit Dates: 1/91–Present.

Occupational Field: 23 (Meteorology).

Career Pattern

AN: Airman (E-3). *AG3:* Aerographer's Mate, Third Class (E-4). *AG2:* Aerographer's Mate, Second Class (E-5). *AG1:* Aerographer's Mate, First Class (E-6). *AGC:* Chief Aerographer's Mate (E-7). *AGCS:* Senior Chief Aerographer's Mate (E-8). *AGCM:* Master Chief Aerographer's Mate (E-9).

Description

Summary: Observes, collects, records, and analyzes meteorological and oceanographic data; computers are used whenever applicable; makes visual and instrumental observations of weather and sea conditions; conducts briefings. *AG3:* Identifies the types and knows the purposes of instruments and equipment used by the Weather Service; operates equipment and performs routine checks and operator preventive maintenance on meteorological and oceanographic equipment and instruments; observes, collects, records, and prepares for transmission surface meteorological elements; plots synoptic surface charts using aviation observations, constant pressure charts, data from environmental warnings and advisories, and skew T, Log P diagrams; determines tracking data from meteorological satellite predict messages; applies grid to meteorological satellite pictures; operates radio receivers and facsimile and teletype equipment; uses publications and directives related to weather communications. *AG2:* Able to perform the duties required for AG3; checks surface observations for accuracy prior to transmission; applies meteorological fundamentals of primary, secondary, and tertiary circulations of the earth's atmosphere and of types of weather associated with air masses, frontal systems, and anticyclonic systems in drawing weather charts; identifies physical properties of sea water and major current systems and water masses of the ocean; constructs radiological fallout plot from upper wind data; draws synoptic surface charts showing frontal systems, isobars, isallobars, and pressure centers; draws constant-pressure charts showing isohypses, troughs, ridges and height centers; interprets oceanographic charts; computes astronomical and tidal data; maintains directives, publications, and climatological records; orders, inventories, and disposes of meteorological and oceanographic equipment, instruments, and supplies. *AG1:* Able to perform the duties required for AG2; prepares short-range (up to 24 hours) environmental forecasts; identifies and classifies weather echoes on radar; computes atmospheric refractive index; analyzes and uses skew T, Log P diagrams in preparing environmental forecasts; prepares and presents weather data for local and extended flights;

identifies charts and related products from digital computers; performs calibration and adjustments to meteorological and oceanographic equipment (excluding electronic components). *AGC:* Able to perform the duties required for AG1; interprets ocean thermal structure and factors affecting underwater transmission of sound, wind wave, swell generation, and propagation in preparing oceanographic forecasts; analyzes and uses constant pressure charts, streamline charts, surface charts, satellite data, and sea condition charts in preparing environmental forecasts; constructs and verifies prognostic surface and constant pressure charts; prepares environmental warnings and advisories; assigns tasks to personnel; trains subordinates in correct operating and maintenance procedures for assigned equipment. *AGCS:* Able to perform the duties required for AGC; evaluates recent meteorological and oceanographic developments for integration into local routines; provides climatological, meteorological, and oceanographic data at planning-level meetings; organizes, schedules, and evaluates training programs; administers technical publications library; prepares directives and instructions for attaining organizational objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, assigning, and evaluating personnel. *AGCM:* Able to perform the duties required for AGCS; prepares statistical analyses of climatological data and provides information concerning its uses, capabilities, and limitations; reviews personnel, equipment and material requirements and forecasts future requirements; establishes goals and sets priorities; develops operating budgets and monitors expenditures.

Recommendation, AG3

In the lower-division baccalaureate/associate degree category, 2 semester hours in meteorology, 2 in meteorology laboratory, and 3 in computer familiarization (3/91).

Recommendation, AG2

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 2 in meteorology laboratory, 1 in oceanography, 3 in computer familiarization, and 3 in computer applications (3/91).

Recommendation, AG1

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 1 in oceanography, 3 in computer familiarization, and 3 in computer applications. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics (3/91).

Recommendation, AGC

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 2 in oceanography, 1 in personnel supervision, 3 in computer familiarization, and 3 in computer applications. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics (3/91).

Recommendation, AGCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 3 in oceanography, 3 in personnel supervision, 3 in computer familiarization, and 3 in computer applications. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics and 1 in measurements and data systems (3/91).

Recommendation, AGCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology, 3 in atmospheric environment, 3 in meteorology laboratory, 3 in climatology, 3 in oceanography, 3 in personnel supervision, 3 in computer familiarization, and 3 in computer applications. In the upper-division baccalaureate category, 1 semester hour in atmospheric physics, 2 in measurement and data systems, 3 in weather station management, 3 in organizational management, and 3 in management problems (3/91).

NER-AK-001

AVIATION STOREKEEPER
AK3
AK2
AK1
AKC
AKCS
AKCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 16 (Logistics).

Career Pattern

AN: Airman (E-3). *AK3:* Aviation Storekeeper, Third Class (E-4). *AK2:* Aviation Storekeeper, Second Class (E-5). *AK1:* Aviation Storekeeper, First Class (E-6). *AKC:* Chief Aviation Storekeeper (E-7). *AKCS:* Senior Chief Aviation Storekeeper (E-8). *AKCM:* Master Chief Aviation Storekeeper (E-9).

Description

Summary: Receives, identifies, stores, and issues aviation supplies, spare parts, and equipment; maintains stock control records; conducts inventories. *AK3:* Applies automated data processing supply procedures; operates various office machines; receives, verifies for quantity and condition, and acknowledges the receipt of materials; issues materials; maintains receipt control records; prepares and submits requisition, purchase, and transportation documents; types (at 20 words per minute), routes, and files correspondence, messages, and forms; operates material-handling equipment and microfiche/microfilm reader equipment. *AK2:* Able to perform the duties required for AK3; drafts correspondence and messages; monitors day-to-day status of funds and prepares rough periodic financial reports; maintains equipage inventories and records; conducts inventories; carries out procedures for maintaining, expediting, and processing components awaiting parts; applies procedures for control and accounting of classified equipment; maintains files of publications. *AK1:* Able to perform the duties required for AK2; reviews computer output for accuracy of data content; ensures compliance with procedures for records disposal; establishes and maintains tickler files and a technical library; accounts for damaged, overage, and short shipments and deliveries; develops storage plans; prepares correspondence and messages. *AKC:* Able to perform the duties required for AK1; monitors shipboard uniform automated data processing system procedures applicable to supply department functions; plans the layout of offices, storerooms, and issue rooms to facilitate efficient operations; organizes and administers elements of aviation supply activities; prepares lists of material requirements; develops and implements inventory procedures. *AKCS:* Able to perform the duties required for AKC; prepares operating and safety instructions; applies procedures for the establishment, control, and supervision of supply operations; prepares local directives and instructions; reviews and evaluates personnel; organizes on-the-job training program. *AKCM:* Able to perform the duties required for AKCS; monitors conformity to safety and maintenance regulations; plans organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; supervises the administrative, control, material, and fiscal functions of an aviation supply department; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; evaluates supply procedures and personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AK3

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines and 1 in office procedures (2/77).

Recommendation, AK2

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in record keeping, and 1 in office procedures (2/77).

Recommendation, AK1

In the lower-division baccalaureate/associate degree category, 3 semester hours in record keeping, 2 in office machines, and 1 in office procedures (2/77).

Recommendation, AKC

In the lower-division baccalaureate/associate degree category, 3 semester hours in record keeping, 2 in office machines, 2 in office management, 1 in office procedures, and 1 in personnel supervision. In the upper-division baccalaureate category, credit for a practicum in management on the basis of institutional evaluation (2/77).

Recommendation, AKCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in record keeping, 3 in management electives, 2 in office machines, 2 in office management, 2 in personnel supervision, and 1 in office procedures. In the upper-division baccalaureate category, 3 semester hours for a practicum in management (2/77).

Recommendation, AKCM

In the vocational certificate category, 1 semester hour in office procedures and 2 in office management. In the lower-division baccalaureate/associate degree category, 3 semester hours in record keeping, 3 in management electives, 3 in personnel supervision, 3 in office management, 3 in office procedures, and 2 in office machines. In the upper-division baccalaureate category, 3 semester hours for a practicum in management, 3 in management problems, and additional credit in personnel management and human relations on the basis of institutional evaluation (2/77).

NER-AK-002

Aviation Storekeeper
AK3
AK2
AK1
AKC
AKCS
AKCM

Exhibit Dates: 1/91–Present.

Occupational Field: 16 (Logistics).

Career Pattern

AN: Airman (E-3). *AK3:* Aviation Storekeeper, Third Class (E-4). *AK2:* Aviation Storekeeper, Second Class (E-5). *AK1:* Aviation Storekeeper, First Class (E-6). *AKC:* Chief Aviation Storekeeper (E-7). *AKCS:* Senior Chief Aviation Storekeeper (E-8). *AKCM:* Master Chief Aviation Storekeeper (E-9).

Description

Summary: Receives, identifies, stores, and issues aviation supplies, spare parts, and equipment; maintains stock control records; conducts inventories. *AK3:* Applies automated data processing supply procedures; operates various office machines; receives, verifies for quantity and condition, and acknowledges the receipt of materials; issues materials; maintains receipt control records; prepares and submits requisition, purchase, and transportation documents; types, routes, and files correspondence, messages, and forms; operates material-handling equipment and microfiche/microfilm reader equipment. *AK2:* Able to perform the duties required for AK3; drafts correspondence and messages; monitors day-to-day status of funds and prepares rough periodic financial reports; maintains equipage inventories and records; conducts inventories; carries out procedures for maintaining, expediting, and processing components awaiting parts; applies procedures for control and accounting of classified equipment; maintains files of publications. *AK1:* Able to perform the duties required for AK2; reviews computer output for accuracy of data content; ensures compliance with procedures for records disposal; establishes and maintains tickler files and a technical library; accounts for damaged, overage, and short shipments and deliveries; develops storage plans; prepares correspondence and messages. *AKC:* Able to perform the duties required for AK1; monitors shipboard uniform automated data processing system procedures applicable to supply department functions; plans the layout of offices, storerooms, and issue rooms to facilitate efficient operations; organizes and administers elements of aviation supply activities; prepares lists of material requirements; develops and implements inventory procedures. *AKCS:* Able to perform the duties required for AKC; prepares operating and safety instructions; applies procedures for the establishment, control, and supervision of supply operations; prepares local directives and instructions; reviews and evaluates personnel; organizes on-the-job training program. *AKCM:* Able to perform the duties required for AKCS; monitors conformity to safety and maintenance regulations; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; supervises the administrative, control, material, and fiscal functions of an aviation supply department; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; evaluates supply procedures and personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AK3

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in clerical procedures, 2 in records and information management, and 3 in supply management (5/92).

Recommendation, AK2

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in clerical procedures, 2 in records and information management, and 3 in supply management (5/92).

Recommendation, AK1

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in clerical procedures, 3 in records and information management, 3 in supply management, 2 in office administration, 2 in business communication, and 2 in personnel supervision (5/92).

Recommendation, AKC

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in clerical procedures, 3 in records and information management, 3 in supply management, 3 in office administration, 2 in business communication, and 3 in personnel supervision (5/92).

Recommendation, AKCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in clerical procedures, 3 in records and information management, 3 in supply management, 3 in office administration, 2 in business communication, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, AKCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in clerical procedures, 3 in records and information management, 3 in supply management, 3 in office administration, 2 in business communication, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-AM-001

Aviation Structural Mechanic, Senior Chief
AMCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress from AMHC, Chief Aviation Structural Mechanic, Hydraulics (E-7); AMEC, Chief Aviation Structural Mechanic, Safety Equipment (E-7); or AMSC, Chief Aviation Structural Mechanic, Structures (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Manages, supervises, and administers airframe work centers of varying sizes; supervises aviation structural mechanics in the inspection, maintenance, and repair of aircraft, airframes, and hydraulic and pneumatic systems; plans safety program pertaining to airframes, related equipment, and assigned work areas; evaluates requirements and requests technical assistance from contractor representatives, as needed; prepares local directives and instructions; prepares correspondence; organizes, schedules, and evaluates training programs; monitors the overhaul and rework of airframes, structural components, and related systems; applies concepts, objectives, and functions of quality control; administers long-range, planned maintenance program; applies material control practices and supply management policies.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in safety management and 3 in principles of administration; add the 30 semester hours recommended for AMHC (Chief Aviation Structural Mechanic, Hydraulics) in exhibit NER-AMH-001, or AMEC (Chief Aviation Structural Mechanic, Safety Equipment) in exhibit NER-AME-001, or AMSC (Chief Aviation Structural Mechanic, Structural) in exhibit NER-AMS-001, as appropriate. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in management problems, 3 in quality control, and 3 in human relations (2/77).

NER-AM-002

Aviation Structural Mechanic, Senior Chief
AMCS

Exhibit Dates: 1/91–8/96.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress from AMHC, Chief Aviation Structural Mechanic, Hydraulics (E-7); AMEC, Chief Aviation Structural Mechanic, Safety Equipment (E-7); or AMSC, Chief Aviation Structural Mechanic, Structures (E-7). *AMCS:* Master Chief Aircraft Maintenanceman (E-9).

Description

Manages, supervises, and administers airframe work centers of varying sizes; supervises aviation structural mechanics in the inspection, maintenance, and repair of aircraft, airframes, and hydraulic and pneumatic systems; plans safety program pertaining to airframes, related equipment, and assigned work areas; evaluates requirements and requests technical assistance from contractor representatives, as needed; prepares local directives and instructions; prepares correspondence; organizes, schedules, and evaluates training programs; monitors the overhaul and rework of airframes, structural components, and related systems; applies concepts, objectives, and functions of quality control; administers long-range, planned maintenance program; applies material control practices and supply management policies.

Recommendation

In the lower-division baccalaureate/associate degree category, if individual progressed from AMEC, use the credit recommendation in exhibit NER-AME-001 or NER-AME-002; if progressed from AMHC, use the credit recommendation in exhibit NER-AMH-001 or NER-AMH-002; if progressed from AMSC, use the credit recommendation in exhibit NER-AMS-001 or NER-AMS-002. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-AM-003

Aviation Structural Mechanic, Senior Chief
AMCS

Exhibit Dates: 9/96–Present.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

May progress from AMHC, Chief Aviation Structural Mechanic, Hydraulics (E-7); AMEC, Chief Aviation Structural Mechanic, Safety Equipment (E-7); or AMSC, Chief Aviation Structural Mechanic, Structures (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Manages, supervises, and administers airframe work centers of varying sizes; supervises aviation structural mechanics in the inspection, maintenance, and repair of aircraft, airframes, hydraulic and pneumatic systems, ejection systems, safety belts and shoulder harnesses, gaseous and liquid oxygen systems, and related equipment; plans safety program pertaining to airframes, related equipment, and assigned work areas; evaluates requirements and requests technical assistance from contractor representatives, as needed; prepares local directives and instructions; prepares correspondence; organizes, schedules, and evaluates training programs; monitors the overhaul and rework of airframes, structural components, and related systems; applies concepts, objectives, and functions of quality control; administers long-range, planned maintenance programs; applies material control and supply management practices; exercises leadership and motivational techniques toward work center personnel; manages, supervises, coordinates, and leads the maintenance efforts of the airframe work centers, across the range of specializations in safety equipment (AME), hydraulics (AMH), and structures (AMS) for large maintenance organizations (150 or more persons).

Recommendation

In the lower-division baccalaureate/associate degree category, if individual progressed from AMEC, use the credit recommendations in exhibit NER-AME-003; if progressed from AMHC, use the credit recommendations in exhibit NER-AMH-003; if progressed from AMSC, use the credit recommendations in exhibit NER-AMS-003. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 in a management internship, and 3 in human resource management (10/96).

NER-AME-001

Aviation Structural Mechanic, Safety Equipment
AME3
AME2
AME1
AMEC

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). AME3: Aviation Structural Mechanic, Safety Equipment, Third Class (E-4). AME2: Aviation Structural Mechanic, Safety Equipment, Second Class (E-5). AME1: Aviation Structural Mechanic, Safety Equipment, First Class (E-6). AMEC: Chief Aviation Structural Mechanic, Safety Equipment (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains safety belts, shoulder harnesses and integrated flight harnesses, inertia reels, seat and canopy ejection systems, gaseous and liquid oxygen systems, life raft ejection systems, fire extinguishing systems (excluding fire detection systems), emergency egress systems, air conditioning, heating, and cockpit pressurization systems, and anti-G systems; replenishes liquid oxygen and gaseous systems; removes, inspects, installs, and rigs egress systems; performs daily preflight, postflight, and other periodic inspections. *AME3:* Applies operating principles of aircraft oxygen systems; services aircraft with liquid and gaseous oxygen, using oxygen transfer trailers or direct filling equipment; purges aircraft oxygen systems; removes and installs aircraft oxygen systems, cockpit canopies, canopy seals, safety belts, automatic lap belts, shoulder harnesses, and inertia reels; adjusts actuating controls and mechanisms; replaces defective indicators and controls; removes and installs temperature and pressure control units and components of cooling system equipment; replaces components of fixed fire extinguishing systems; bleeds air defrosting, anti-ice, and rain removal systems; uses schematic diagrams, drawings, and charts; uses and maintains hand tools; uses technical publications. *AME2:* Able to perform the duties required for AME3; assembles and installs equipment; performs periodic aircraft inspections; assists with inventory of equipment; orders parts, equipment, material, and tools; applies operating principles of air conditioning, pressurization, and utility systems; removes and installs ejection seats and components; adjusts ejection seat and canopy components; performs ground checks on oxygen systems; is a first-line supervisor of four to seven person work group. *AME1:* Able to perform the duties required for AME2; operates vapor cycle system and portable testers for cabin pressurization; troubleshoots and repairs malfunctioning equipment; trains subordinates on operation, maintenance, and repair of aircraft environmental system and egress system; orders and maintains shop files of technical publications, directives, and manuals; adjusts cockpit canopy mechanisms and linkages; tests cockpits and cabins for pressure tightness, leaks, proper pressure, and temperature control; inspects, tests, and adjusts firing mechanisms in ejection seats, lap belts, canopies, and other cartridge-actuated emergency escape systems; analyzes air conditioning, pressurization, and utility system malfunctions, isolates defective components, and determines corrective action; inspects installation and evaluates operation of repaired or newly installed parts and components; supervises inspections; prepares weekly schedules of preventive maintenance. *AMEC:* Able to perform the duties required for AME1; interprets technical publications and directives; plans, organizes, and lays out work centers; maintains work center registers and prepares local reports; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly schedules of preventive maintenance; maintains work center inventory records; estimates spare parts, supplies, equipment, and manpower requirements.

Recommendation, AME3

In the lower-division baccalaureate/associate degree category, 10 semester hours in aircraft safety and warning systems and 3 in aviation maintenance technology (2/77).

Recommendation, AME2

In the lower-division baccalaureate/associate degree category, 12 semester hours in aircraft safety and warning systems, 4 in aviation maintenance technology, and 2 in personnel supervision (2/77).

Recommendation, AME1

In the lower-division baccalaureate/associate degree category, 15 semester hours in aircraft safety and warning systems, 6 in aviation maintenance technology, 3 in personnel supervision, and 2 in maintenance management (2/77).

Recommendation, AMEC

In the lower-division baccalaureate/associate degree category, 15 semester hours in aircraft safety and warning systems, 6 in aviation maintenance technology, 3 in personnel supervision, 3 in maintenance management, and 3 in shop management. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/77).

NER-AME-002

Aviation Structural Mechanic, Safety Equipment
AME3
AME2
AME1
AMEC

Exhibit Dates: 1/91–8/96.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). AME3: Aviation Structural Mechanic (Safety Equipment), Third Class (E-4). AME2: Aviation Structural Mechanic (Safety Equipment), Second Class (E-6). AME1: Aviation Structural Mechanic (Safety Equipment), First Class (E-7). AMEC: Chief Aviation Structural Mechanic (Safety Equipment) (E-8). *AFCS:* Senior Chief Aircraft Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenance (E-9).

Description

Summary: Maintains safety belts, shoulder harnesses and integrated flight harnesses, inertia reels, seat and canopy ejection systems, gaseous and liquid oxygen systems, life raft ejection systems, fire extinguishing systems (excluding fire detection systems), emergency egress systems, air conditioning, heating, and cockpit pressurization systems, and anti-G systems; replenishes liquid oxygen and gaseous systems; removes, inspects, installs, and rigs egress systems; performs daily preflight, postflight, and other periodic inspections. *AME3:* Applies operating principles of aircraft oxygen systems; services aircraft with liquid and gaseous oxygen, using oxygen transfer trailers or direct filling equipment; purges aircraft oxygen systems; removes and installs aircraft oxygen systems, cockpit canopies, canopy seals, safety belts, automatic lap belts, shoulder harnesses, and inertia reels; adjusts actuating controls and mechanisms; replaces defective indicators and controls; removes and installs temperature and pressure control unit and components of cooling system equipment; replaces components of fixed fire extinguishing systems; bleeds air defrosting, anti-ice, and rain removal systems; uses schematic diagrams, drawings, and charts; uses and maintains hand tools; uses technical publications. *AME2:* Able to perform the duties required for AME3; assembles and installs equipment; performs periodic aircraft inspections; assists with inventory of equipment; orders parts, equipment, material, and tools; knows operating principles of air conditioning, pressurization, and utility systems; removes and installs ejection seats and components; adjusts ejection seat and canopy components; performs ground checks on oxygen systems; is a first-line supervisor of four to seven person work group. *AME1:* Able to perform the duties required for AME2; operates vapor cycle system and portable testers for cabin pressurization; troubleshoots and repairs malfunctioning equipment; trains subordinates in operation, maintenance, and repair of aircraft environmental systems and egress system; orders and maintains shop files of technical publications, directives, and manuals; adjusts cockpit canopy mechanisms and linkages; tests cockpits and cabin for pressure tightness, leaks, proper pressure, and temperature control; inspects, tests, and adjusts firing mechanisms in ejection seats, lap belts, canopies, and other cartridge-actuated emergency escape systems; analyzes air conditioning, pressurization, and utility systems malfunctions, isolates defective components, and determines corrective action; inspects installation and evaluates operation of repaired or newly installed parts and components; supervises inspections; prepares weekly schedules of preventive maintenance. *AMEC:* Able to perform the duties required for AME1; interprets technical publications and directives; plans, organizes, and lays out work centers; maintains work center registers and prepares local reports; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly schedules of preventive maintenance; maintains work center inventory records; estimates spare parts, supplies, equipment, and manpower requirements.

Recommendation, AME3

In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft interior and furnishing systems, 3 in shop safety, and 3 in aircraft maintenance fundamentals (3/91).

Recommendation, AME2

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft interior and furnishing systems, 3 in shop safety, 3 in aircraft maintenance fundamentals, and 1 in personnel supervision (3/91).

Recommendation, AME1

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft interior and furnishing systems, 3 in shop safety, 3 in aircraft maintenance fundamentals, 2 in maintenance management, 2 in personnel supervision, and 2 in records and information management (3/91).

Recommendation, AMEC

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft interior and furnishing systems, 3 in shop safety, 3 in aircraft maintenance fundamentals, 3 in personnel supervision, 3 in maintenance management, and 2 in records and information management. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for field experience in management (3/91).

NER-AME-003

AVIATION STRUCTURAL MECHANIC, SAFETY EQUIPMENT
AME3
AME2
AME1
AMEC

Exhibit Dates: 9/96–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). AME3: Aviation Structural Mechanic (Safety Equipment), Third Class (E-4). AME2: Aviation Structural Mechanic (Safety Equipment), Second Class (E-6). AME1: Aviation Structural Mechanic (Safety Equipment), First Class (E-7). AMEC: Chief Aviation Structural Mechanic (Safety Equipment) (E-8). *AFCS:* Senior Chief Aircraft Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenance (E-9).

Description

Summary: Maintains safety belts, shoulder harnesses and integrated flight harnesses, inertia reels, seat and canopy ejection systems, gaseous and liquid oxygen systems, life raft ejection systems, fire extinguishing systems (excluding fire detection systems), emergency egress systems, air conditioning, heating, and cockpit pressurization systems, and anti-G systems; replenishes liquid oxygen and gaseous systems; removes, inspects, installs, and rigs egress systems; performs daily preflight, postflight, and other periodic inspections. *AME3:* Applies operating principles of aircraft oxygen systems; services aircraft with liquid and gaseous oxygen, using oxygen transfer trailers or direct filling equipment; purges aircraft oxygen systems; removes and installs aircraft oxygen systems, cockpit canopies, canopy seals, safety belts, automatic lap belts, shoulder harnesses, and inertia reels; adjusts actuating controls and mechanisms; replaces defective indicators and controls; removes and installs temperature and pressure control unit and components of cooling system equipment; replaces components of fixed fire extinguishing systems; bleeds air defrosting, anti-ice, and rain removal systems; uses schematic diagrams, drawings, and charts; uses and maintains hand tools; uses technical publications. *AME2:* Able to perform the duties required for AME3; assembles and installs equipment; performs periodic aircraft inspections; assists with inventory of equipment; orders parts, equipment, material, and tools; applies operating principles of air conditioning, pressurization, and utility systems; removes and installs ejection seats and components; adjusts ejection seat and canopy components; performs ground checks on oxygen systems; supervises a four to seven person work group; uses and supervises the use of computer systems for recordkeeping, reports, and inventories. *AME1:* Able to perform the duties required for AME2; operates vapor cycle system and portable testers for cabin pressurization; troubleshoots and repairs malfunctioning equipment; trains subordinates in operation, maintenance, and repair of aircraft environmental systems and egress system; orders and maintains shop files of technical publications, directives, and manuals; adjusts cockpit canopy mechanisms and linkages; tests cockpits and cabin for pressure tightness, leaks, proper pressure, and temperature control; inspects, tests, and adjusts firing mechanisms in ejection seats, lap belts, canopies, and other cartridge-actuated emergency escape systems; analyzes air conditioning, pressurization, and utility system malfunctions, isolates defective components, and determines corrective action; inspects installation and evaluates operation of repaired or newly installed parts and components; supervises inspections; prepares weekly schedules of preventive maintenance; uses and supervises the use of computer systems for recordkeeping, reports, and inventories. *AMEC:* Able to perform the duties required for AME1; interprets technical publications and directives; plans, organizes, and lays out work centers; maintains work center registers and prepares local reports; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly schedules of preventive maintenance; maintains work center inventory records; estimates spare parts, supplies, equipment, and manpower requirements.

Recommendation, AME3

In the lower-division baccalaureate/associate degree category, 3 semester hours in aircraft systems, 3 in safety fundamentals, and 3 in aircraft maintenance fundamentals (10/96).

Recommendation, AME2

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft systems, 3 in safety fundamentals, 3 in aircraft maintenance fundamentals, and 1 in personnel supervision (10/96).

Recommendation, AME1

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft systems, 3 in safety fundamentals, 3 in aircraft maintenance fundamentals, 2 in maintenance management, 2 in personnel supervision, and 3 in computer applications (10/96).

Recommendation, AMEC

In the lower-division baccalaureate/associate degree category, 6 semester hours in aircraft systems, 3 in safety fundamentals, 3 in aircraft maintenance management, 3 in personnel supervision, and 3 in computer applications. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for a management internship (10/96).

NER-AMH-001

Aviation Structural Mechanic, Hydraulics
AMH3
AMH2
AMH1
AMHC

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). AMH3: Aviation Structural Mechanic, Hydraulics, Third Class (E-4). AMH2: Aviation Structural Mechanic, Hydraulics, Second Class (E-5). AMH1: Aviation Structural Mechanic, Hydraulics, First Class (E-6). AMHC: Chief Aviation Structural Mechanic, Hydraulics (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains hydraulic systems, including main and auxiliary power systems and unit actuating subsystems, landing gear (excluding wheels and tires), brakes, and related pneumatic systems; inspects, removes, and replaces components of hydraulic systems; performs preflight, postflight, and other periodic aircraft inspections. *AMH3:* Removes and installs check valves, relief valves, sequence valves, restrictors, actuating cylinders, and emergency air bottles; uses schematic diagrams, drawings, and charts to trace systems; fabricates, fits, and tests rigid tubing and flexible hose assemblies; identifies types and designations of fuel, oil, hydraulic fluids, and lubricants used in aircraft; operates ground support equipment; uses and maintains hand tools; bleeds hydraulic systems; adjusts brakes and replaces lining and pucks; replaces gaskets, packing, and wipers in hydraulic components; recognizes the effects of high noise levels on the human body. *AMH2:* Able to perform the duties required for AMH3; supervises a four to seven person work group; adjusts and replaces hydraulic and pneumatic components of flight control systems; bleeds hydraulic power system and subsystem; removes and installs pumps, motors, pressure regulators, and recoil struts; checks, tests, adjusts, and repairs hydraulic and pneumatic components; replaces master cylinders, power brake valves, and emergency brake system components; troubleshoots malfunctions of landing gear controls, control valves, shock and recoil struts, and shimmy dampers; orders aircraft parts, tools, equipment, and material; adjusts landing gear controls, locks, doors, microswitches, and mechanical linkages. *AMH1:* Able to perform the duties required for AMH2; supervises 10 to 15 person work groups; trains personnel on aircraft hydraulic/ pneumatic systems; supervises landing gear drop checks; maintains shop files of technical publications, directives, and manuals; inspects installation and evaluates operation of newly installed parts and components; supervises aircraft inspections; prepares weekly schedules of preventive maintenance; adjusts nose wheel steering mechanisms and control and actuating linkages and mechanisms. *AMHC:* Able to perform the duties required for AMH1; analyzes malfunctions of flight control systems and determines corrective action; determines the need and method for decontamination of a hydraulic system; plans and organizes work centers; provides technical assistance; prepares reports; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly preventive maintenance schedules; maintains work center inventory records; estimates spare parts, supplies, equipment, and manpower requirements; diagnoses aircraft irregular flight characteristics and determines corrective action.

Recommendation, AMH3

In the lower-division baccalaureate/associate degree category, 10 semester hours in hydraulic systems repair and 3 in aviation maintenance technology (2/77).

Recommendation, AMH2

In the lower-division baccalaureate/associate degree category, 15 semester hours in hydraulic systems repair, 6 in aviation maintenance technology, and 2 in personnel supervision (2/77).

Recommendation, AMH1

In the lower-division baccalaureate/associate degree category, 15 semester hours in hydraulic systems repair, 6 in aviation maintenance technology, 3 in personnel supervision, and 3 in maintenance management (2/77).

Recommendation, AMHC

In the lower-division baccalaureate/associate degree category, 15 semester hours in hydraulic systems repair, 6 in aviation maintenance technology, 3 in personnel supervision, 3 in maintenance management, and 3 in shop management. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/77).

NER-AMH-002

Aviation Structural Mechanic, Hydraulics
AMH3
AMH2
AMH1
AMHC

Exhibit Dates: 1/91–8/96.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). AMH3: Aviation Structural Mechanic, Hydraulics, Third Class (E-4). AMH2: Aviation Structural Mechanic, Hydraulics, Second Class (E-5). AMH1: Aviation Structural Mechanic, Hydraulics, First Class (E-6). AMHC: Chief Aviation Structural Mechanic, Hydraulics (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains hydraulic systems, including main and auxiliary power systems and unit actuating subsystems landing gear (excluding wheels and tires), brakes, and related pneumatic systems; inspects, removes, and replaces components of hydraulic systems; performs preflight, postflight, and other periodic aircraft inspections. *AMH3:* Removes and installs check valves, relief valves, sequence valves, restrictors, actuating cylinders, and emergency air bottles; uses schematic diagrams, drawings, and charts to trace systems; fabricates, fits, and tests rigid tubing and flexible hose assemblies; identifies types and designation of fuel, oil, hydraulic fluids, and lubricants used in aircraft; operates ground support equipment; uses and maintains hand tools; bleeds hydraulic systems; adjusts brakes and replaces lining and pucks; replaces gaskets, packing, and wipers in hydraulic components; recognizes the effects on high noise levels on the human body. *AMH2:* Able to perform the duties required for AMH3; supervises a four to seven person work group; adjusts and replaces hydraulic and pneumatic components of flight control systems; bleeds hydraulic power system and subsystem; removes and install pumps, motors, pressure regulators, and recoil struts; checks, tests, adjusts, and repairs hydraulic and pneumatic components; replaces master cylinders, power brake valves, and emergency brake system components; troubleshoots malfunctions of landing gear controls, control valves, shock and recoil struts, and shimmy dampers; orders aircraft parts, tools, equipment, and material; adjusts landing gear controls, locks, doors, microswitches, and mechanical linkages. *AMH1:* Able to perform the duties required for AMH2; supervises 10-15 person work groups; trains personnel on aircraft hydraulic/pneumatic systems; supervises landing gear drop checks; maintains shop files of technical publications, directives, and manuals; inspects installation and evaluates operation of newly installed parts and components; supervises aircraft inspections; prepares weekly schedules of preventive maintenance; adjusts nose wheel steering mechanisms and control and actuating linkages and mechanisms. *AMHC:* Able to perform the duties required for AMH1; analyzes malfunctions of flight control systems and determines corrective action; determines the need and method of decontamination of a hydraulic system; plans and organizes work centers; provides technical assistance; prepares reports; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly preventive maintenance schedules; maintains work center inventory records; estimates spare parts, supplies, equipment, and manpower requirements; diagnoses aircraft irregular flight characteristics and determines corrective action.

Recommendation, AMH3

In the lower-division baccalaureate/associate degree category, 10 semester hours in hydraulic system maintenance (basic hydraulics, power, actuating systems, and distribution systems) and 3 in basic aircraft maintenance theory and technology (3/91).

Recommendation, AMH2

In the lower-division baccalaureate/associate degree category, 15 semester hours in hydraulic system maintenance (basic hydraulics, power, actuating systems, and distribution systems), 6 in basic aircraft maintenance theory and technology, and 1 in personnel supervision (3/91).

Recommendation, AMH1

In the lower-division baccalaureate/associate degree category, 15 semester hours in hydraulic system maintenance (basic hydraulics, power, actuating systems, and distribution systems), 6 in basic aircraft maintenance theory and technology, 2 in personnel supervision, 2 in maintenance management, and 2 in records and information management (3/91).

Recommendation, AMHC

In the lower-division baccalaureate/associate degree category, 15 semester hours in hydraulic system maintenance (basic hydraulics, power, actuating systems, and distribution systems), 6 in basic aircraft maintenance theory and technology, 3 in personnel supervision, 3 in maintenance management, and 2 in records and information management. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for field experience in management (3/91).

NER-AMH-003

Aviation Structural Mechanic, Hydraulics
AMH3
AMH2
AMH1
AMHC

Exhibit Dates: 9/96–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). AMH3: Aviation Structural Mechanic, Hydraulics, Third Class (E-4). AMH2: Aviation Structural Mechanic, Hydraulics, Second Class (E-5). AMH1: Aviation Structural Mechanic, Hydraulics, First Class (E-6). AMHC: Chief Aviation Structural Mechanic, Hydraulics (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains hydraulic systems, including main and auxiliary power systems and unit actuating subsystems landing gear (excluding wheels and tires), brakes, and related pneumatic systems; inspects, removes, and replaces components of hydraulic systems; performs preflight, postflight, and other periodic aircraft inspections; uses computer programs and data to report and track work assignments and equipment components. *AMH3:* Removes and installs check valves, relief valves, sequence valves, restrictors, actuating cylinders, and emergency air bottles; uses schematic diagrams, drawings, and charts to trace systems; fabricates, fits, and tests rigid tubing and flexible hose assemblies; identifies types and designation of fuel, oil, hydraulic fluids, and lubricants used in aircraft; operates ground support equipment; uses and maintains hand tools; bleeds hydraulic systems; adjusts brakes and replaces lining and pucks; replaces gaskets, packing, and wipers in hydraulic components; recognizes the effects on high noise levels on the human body. *AMH2:* Able to perform the duties required for AMH3; supervises a four to seven person work group; adjusts and replaces hydraulic and pneumatic components of flight control systems; bleeds hydraulic power system and subsystem; removes and install pumps, motors, pressure regulators, and recoil struts; checks, tests, adjusts, and repairs hydraulic and pneumatic components; replaces master cylinders, power brake valves, and emergency brake system components; troubleshoots malfunctions of landing gear controls, control valves, shock and recoil struts, and shimmy dampers; orders aircraft parts, tools, equipment, and material; adjusts landing gear controls, locks, doors, microswitches, and mechanical linkages; uses computer systems for recordkeeping, reports, and inventories. *AMH1:* Able to perform the duties required for AMH2; supervises 10-15 person work groups; trains personnel on aircraft hydraulic/pneumatic systems; supervises landing gear drop checks; maintains shop files of technical publications, directives, and manuals; inspects installation and evaluates operation of newly installed parts and components; supervises aircraft inspections; prepares weekly schedules of preventive maintenance; adjusts nose wheel steering mechanisms and control and actuating linkages and mechanisms; uses and supervises the use of computer systems for recordkeeping, reports, and inventories. *AMHC:* Able to perform the duties required for AMH1; analyzes malfunctions of flight control systems and determines corrective action; determines the need and method of decontamination of a hydraulic system; plans and organizes work centers; provides technical assistance; prepares reports; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly preventive maintenance schedules; maintains work center inventory records; estimates spare parts, supplies, equipment, and manpower requirements; diagnoses aircraft irregular flight characteristics and determines corrective action.

Recommendation, AMH3

In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic systems maintenance, 3 in hydraulic systems, and 3 in basic aircraft maintenance (10/96).

Recommendation, AMH2

In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic systems, 3 in hydraulic systems maintenance, 5 in basic aircraft maintenance, 1 in personnel supervision, and 3 in computer applications (10/96).

Recommendation, AMH1

In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic systems, 3 in hydraulic systems maintenance, 5 in basic aircraft maintenance, 2 in personnel supervision, 2 in maintenance management, and 3 in computer applications (10/96).

Recommendation, AMHC

In the lower-division baccalaureate/associate degree category, 3 semester hours in hydraulic systems, 3 in hydraulic systems maintenance, 5 in basic aircraft maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in logistics management and 2 for a management internship (10/96).

NER-AMS-001

Aviation Structural Mechanic, Structures
AMS3
AMS2
AMS1
AMSC

Exhibit Dates: 1/90–2/91.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). AMS3: Aviation Structural Mechanic, Structures, Third Class (E-4). AMS2: Aviation Structural Mechanic, Structures, Second Class (E-5). AMS1: Aviation Structural Mechanic, Structures, First Class (E-6). AMSC: Chief Aviation Structural Mechanic, Structures (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains aircraft fuselages, wings, fixed and movable surfaces, airfoils, empennages, seats (except ejection seats), wheels, tires, controls, and mechanisms; installs and rigs flight controls; fabricates and assembles metal parts and makes minor repairs to aircraft skin; installs rivets and metal fasteners; paints; performs dye penetrant inspections; performs daily preflight, postflight, and other periodic aircraft inspections. *AMS3:* Uses schematic diagrams, drawings, and charts; prepares layout patterns and templates for metal work; fabricates, fits, and tests rigid tubing and flexible hose assemblies; uses technical publications; uses and maintains hand tools; performs hardness tests; detects corrosion and assists in correction and prevention of it; removes corrosion products from aircraft surfaces and structural members; prepares, primes, and paints aircraft surfaces; applies identification markings; builds up wheels and tires. *AMS2:* Able to perform the duties required for AMS3; assembles and installs equipment; repairs stressed and nonstressed skin; fabricates metal parts and repairs internal structural members; performs periodic aircraft inspections; orders aircraft parts, equipment, materials, and tools; applies corrosion prevention and preservation materials; treats metals chemically after corrosion removal; removes and installs special rivets, metal fasteners, flight control surfaces, and detachable aft fuselage section of aircraft; replaces panels in windshields, canopies, plastic enclosures, and windows; repairs minor surface damage to transparent plastics and breaks, cracks, and punctures in reinforced plastics; repairs leaks in integral fuel tanks; is a first-line supervisor of a three to seven person work group. *AMS1:* Able to perform the duties required for AMS2; troubleshoots and corrects material failures; removes and installs wing panels and stabilizers; corrects balancing of flight control surfaces; performs alignment checks of airframes and landing gear; analyzes the extent of corrosion damage; determines repair procedures for aircraft structural damage; supervises aircraft inspections; supervises and evaluates hardness tests and dye penetrant inspections on metals; inspects installation and evaluates operation of repaired or newly installed parts and components; orders technical publications, directives, and manuals; maintains shop files of technical publications, directives, and manuals; trains personnel on aircraft structural systems; is a supervisor of a medium-sized (20-30 persons) work center. *AMSC:* Able to perform the duties required for AMS1; plans, organizes, and lays out work centers; schedules and assigns work loads; maintains work center registers and inventory records; prepares local reports; interprets technical publications, directives, and manuals; analyzes reports of discrepancies and malfunctions and determines corrective action; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly schedules of preventive maintenance; estimates aircraft spare parts, supplies, equipment, and manpower requirements; implements a program for detecting, treating, and preventing corrosion of aircraft.

Recommendation, AMS3

In the lower-division baccalaureate/associate degree category, 8 semester hours in airframe structures repair and 2 in aviation maintenance technology or airframe structures (2/77).

Recommendation, AMS2

In the lower-division baccalaureate/associate degree category, 12 semester hours in airframe structures repair, 4 in aviation maintenance technology or airframe structures, and 2 in personnel supervision (2/77).

Recommendation, AMS1

In the lower-division baccalaureate/associate degree category, 15 semester hours in airframe structures repair, 6 in aviation maintenance technology or airframe structures, 3 in personnel supervision, and 2 in maintenance management (2/77).

Recommendation, AMSC

In the lower-division baccalaureate/associate degree category, 15 semester hours in airframe structures repair, 6 in aviation maintenance technology or airframe structures, 3 in personnel supervision, 3 in maintenance management, and 3 in shop management. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/77).

NER-AMS-002

AVIATION STRUCTURAL MECHANIC, STRUCTURES

AMS3
AMS2
AMS1
AMSC

Exhibit Dates: 3/91–8/96.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). AMS3: Aviation Structural Mechanic, Structures, Third Class (E-4). AMS2: Aviation Structural Mechanic, Structures, Second Class (E-5). AMS1: Aviation Structural Mechanic, Structures, First Class (E-6). AMSC: Chief Aviation Structural Mechanic, Structures (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Maintains aircraft fuselages, wings, fixed and movable surfaces, airfoils, empennages, seats (except ejection seats), wheels, tires, controls, and mechanisms; installs and rigs flight controls; fabricates and assembles metal parts and makes minor repairs to aircraft skin; installs rivets and metal fasteners; paints; performs dye penetrant inspections; performs daily preflight, postflight, and other periodic aircraft inspections. *AMS3:* Uses schematic diagrams, drawings, and charts; prepares layout patterns and templates for metal work; fabricates, fits, and tests rigid and flexible hose assemblies; uses technical publications; uses and maintains hand tools; performs hardness tests, detects and assists in correction and prevention of corrosion; prepares, primes, and paints aircraft surfaces; applies identification markings; builds up wheels and tires. *AMS2:* Able to perform the duties required for AMS3; assembles and installs equipment; repairs stressed and nonstressed skin; fabricates metal parts and repairs internal structural members; performs periodic aircraft inspections; orders aircraft parts, equipment, materials, and tools; treats metals chemically after corrosion removal; removes and installs special rivets, metal fasteners, flight control surfaces, and detachable aft fuselage section of aircraft; replaces panels in windshields, canopies, plastic enclosures, and windows; repairs minor surface damage to transparent plastics and breaks, cracks, and punctures in reinforced plastics; repairs leaks in integral fuel tanks; is a first-line supervisor of a three to seven person work group. *AMS1:* Able to perform the duties required for AMS2; troubleshoots and corrects materials failures; removes and installs wing panels and stabilizers; corrects balancing of flight control surfaces; performs alignment checks of airframes and landing gear; analyzes the extent of corrosion damage; determines repair procedures for aircraft structural damage; supervises aircraft inspections; supervises and evaluates hardness tests and dye penetrant inspections on metals; inspects installation and evaluates operation of repaired or newly installed parts and components; orders and maintains shop files of technical publications, directives, and manuals; trains personnel on aircraft structural systems; is a supervisor of a medium-sized (20-30 persons) work center. *AMSC:* Able to perform the duties required for AMS1; plans, organizes, and lays out work centers; schedules and assigns work loads; maintains work center registers, inventory records, and prepares local reports; interprets technical publications, directives, and manuals; analyzes reports of discrepancies and malfunctions and determines corrective action; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares quarterly schedules of preventive maintenance; estimates aircraft spare parts, supplies, equipment, and manpower requirements; implements a program for detecting, treating, and preventing corrosion of aircraft.

Recommendation, AMS3

In the lower-division baccalaureate/associate degree category, 4 semester hours in airframe structures repair and 2 in airframe structures (3/91).

Recommendation, AMS2

In the lower-division baccalaureate/associate degree category, 8 semester hours in airframe structures repair, 4 in airframe structures, and 1 in personnel supervision (3/91).

Recommendation, AMS1

In the lower-division baccalaureate/associate degree category, 8 semester hours in airframe structures repair, 6 in airframe structures, 2 in personnel supervision, 2 in maintenance management, 2 in composite structure repair, and 2 in records and information management (3/91).

Recommendation, AMSC

In the lower-division baccalaureate/associate degree category, 8 semester hours in airframe structures repair, 6 in airframe structures, 3 in personnel supervision, 3 in maintenance management, 2 in composite structure repair, and 2 in records and information management. In the upper-division baccalaureate category, 2 semester hours in organizational management and 2 for field experience in management (3/91).

NER-AMS-003

AVIATION STRUCTURAL MECHANIC, STRUCTURES

AMS3
AMS2
AMS1
AMSC

Exhibit Dates: 9/96–Present.

Occupational Field: =.

Career Pattern

AN: Airman (E-3). AMS3: Aviation Structural Mechanic, Structures, Third Class (E-4). AMS2: Aviation Structural Mechanic, Structures, Second Class (E-5). AMS1: Aviation Structural Mechanic, Structures, First Class (E-6). AMSC: Chief Aviation Structural Mechanic, Structures (E-7). *AMCS:* Senior Chief Aviation Structural Mechanic (E-8). *AFCM:* Master Chief Aircraft Maintenanceman (E-9).

Description

Summary: Inspects and maintains aircraft fuselages, wings, fixed and movable surfaces, airfoils, empennages, seats (except ejection seats), wheels, tires, controls, and mechanisms; installs and rigs flight controls; fabricates and assembles metallic and non-metallic parts and makes minor repairs to aircraft skin; installs rivets and metal fasteners; welds; assembles and repairs wheels and tires; paints; performs dye penetrant inspections; performs daily preflight, postflight, and other periodic aircraft inspections. *AMS3:* Uses schematic diagrams, drawings, and charts; prepares layout patterns and templates for metal work; fabricates, fits, and tests rigid and flexible hose assemblies; uses technical publications; uses and maintains hand tools; performs hardness tests; detects and assists in correction and prevention of corrosion; prepares, primes, and paints aircraft surfaces; applies identification markings; builds up wheels and tires. *AMS2:* Able to perform the duties required for AMS3; assembles and installs equipment; repairs stressed and non-stressed skin; fabricates and/or repairs metallic and nonmetallic parts and internal structural members; performs periodic aircraft inspections; orders aircraft parts, equipment, materials, and tools; treats metals chemically after corrosion removal; removes and installs special rivets, metal fasteners, flight control surfaces, and detachable fuselage section of aircraft; replaces panels in windshields, canopies, plastic enclosures, and windows; repairs minor surface damage to transparent plastics and breaks, cracks, and punctures in reinforced plastics; repairs leaks in integral fuel tanks; uses computer systems for record keeping, reports, and inventories; supervise a three to seven person work group. *AMS1:* Able to perform the duties required for AMS2; troubleshoots and corrects materials failures; removes and installs wing panels and stabilizers; corrects balancing of flight control surfaces; performs alignment checks of airframes and landing gear; analyzes the extent of corrosion damage; determines repair procedures for aircraft structural damage; supervises aircraft inspections and repairs; supervises and evaluates hardness tests and dye penetrant inspections on metals; inspects installation and evaluates operation of repaired or newly installed parts and components; orders and maintains shop files of technical publications, directives, and manuals; trains personnel on aircraft structural systems; uses, operates, and supervises the use of computer systems; supervises medium-sized (20-30 persons) work center. *AMSC:* Able to perform the duties required for AMS1; plans, organizes, and lays out work centers; schedules and assigns work loads; maintains work center registers, and inventory records; prepares local reports; uses and supervises the use of computer hardware and software; interprets technical publications, directives, and manuals; analyzes reports of discrepancies and malfunctions and determines corrective action; monitors inspection procedures to ensure that technical specifications and standards of workmanship are met; prepares long- and short-range schedules of preventive maintenance; estimates aircraft spare parts, supplies, equipment, and manpower requirements; implements a program for detecting, treating, and preventing corrosion of aircraft; may supervise of a large (30-150 persons) shop or maintenance department.

Recommendation, AMS3

In the lower-division baccalaureate/associate degree category, 4 semester hours in airframe structures repair and 2 in airframe structures (10/96).

Recommendation, AMS2

In the lower-division baccalaureate/associate degree category, 6 semester hours in airframe structures repair, 4 in airframe structures, 1 in composite structure repair, and 1 in personnel supervision (10/96).

Recommendation, AMS1

In the lower-division baccalaureate/associate degree category, 6 semester hours in airframe structures repair, 6 in airframe structures, 2 in personnel supervision, 2 in maintenance management, 2 in composite structure repair, and 2 in automated records and information management (10/96).

Recommendation, AMSC

In the lower-division baccalaureate/associate degree category, 6 semester hours in airframe structures repair, 6 in airframe structures, 3 in personnel supervision, 3 in maintenance management and planning, 2 in composite structure repair, and 2 in automated records and information management. In the upper-division baccalaureate category, 2 semester hours in organizational management, 2 in instructional development and teaching, and 2 for a management internship (10/96).

NER-AN-002

AIRMAN
AN

Exhibit Dates: 1/90–Present.

Career Pattern

Airman is a general rate (Naval apprenticeship) for persons at pay grade E-1 (recruit), E-2 (Airman apprentice), and E-3 (Airman). At pay grade E-4 (petty officer third class), the person may enter any one of the following ratings: Aircrew Survival Equipmentman (PR), Aviation Antisubmarine Warfare Technician (AX), Aviation Electrician's Mate (AE), Aviation Electronics Technician (AT), Aviation Fire Control Technician (AQ), Aviation Machinist's Mate (AD), Aviation Maintenance Administrationman (AZ), Aviation Ordnanceman (AO), Aviation Structural Mechanic (AM), Aviation Equipment Technician (AS), Air Traffic Controller (AC), Tradevman (TD); Aviation Storekeeper (AK), Photographer's Mate (PH), Aerographer's Mate (AG), or Aviation Antisubmarine Warfare Operator (AW).

Description

Assists in the maintenance of aircraft, associated aeronautical equipment, and aircraft support equipment; services, cleans, and handles aircraft; performs other apprentice-level duties involved in the operation of a naval aircraft afloat and ashore.

Recommendation

In the vocational certificate category, 2 semester hours in fundamentals of aircraft service/maintenance. NOTE: Credit for airman (AN) should be granted only after pay grade E-3 has been achieved (3/91).

NER-AO-002

AVIATION ORDNANCEMAN
AO3
AO2
AO1
AOC
AOCS
AOCM

Exhibit Dates: 1/90–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AO3:* Aviation Ordnanceman, Third Class (E-4). *AO2:* Aviation Ordnanceman, Second Class (E-5). *AO1:* Aviation Ordnanceman, First Class (E-6). *AOC:* Chief Aviation Ordnanceman (E-7). *AOCS:* Senior Chief Aviation Ordnanceman (E-8). *AOCM:* Master Chief Aviation Ordnanceman (E-9).

Description

Summary: Maintains, inspects, and repairs aircraft armament equipment and aviation ordnance (weapons) equipment, including aircraft guns, gun accessories, noncomputing gun sights, aerial towed target equipment, small arms, ammunition, handling equipment, ammunition suspension, release launching, and arming equipment; stores and loads aviation ammunition, nuclear weapons, aerial mines, torpedoes, air-launched guided missiles; operates small-arm ranges; supervises the operation of aviation ordnance shops and storage facilities. *AO3:* Prepares gun ammunition for loading; assembles and disassembles aircraft ordnance weapons; performs weapons maintenance; uses schematics, diagrams, and charts to trace systems; performs routine inspection of ordnance equipment; completes periodic maintenance data forms; performs electromechanical maintenance on air armament units; issues standards for safety in ordnance maintenance; operates ground support equipment; detects, removes, and controls corrosion on aircraft armament and aviation ordnance handling equipment; maintains tool inventory; orders supplies and equipment. *AO2:* Able to perform the duties required for AO3; serves as arming/dearming crew leader; supervises and coordinates crew loading of munitions aboard aircraft; maintains shop files, logs, and records; orders technical publications and manuals; performs periodic aircraft preloading inspections. *AO1:* Able to perform the duties required for AO2; supervises the preparation of fuel, air, and gel weapons; analyzes test equipment defects; conducts on-the-job training; performs quality checks ad inspections on loaded aircraft; supervises and directs aircraft inspections; troubleshoots release and arming systems; prepares planned maintenance schedules. *AOC:* Able to perform the duties required for AO1; supervises and coordinates receipt, stowage, movement, preparation, and loading of munitions by squadron crews; interprets technical publications and instructions on the handling of aviation ordnance equipment and munitions; prepares correspondence and reports; plans, organizes, and supervises aviation ordnance shops, storage facilities, and handling areas; supervises the training of special weapons loading teams; analyzes reports and prepares schedules of preventive maintenance; accounts for inventory; evaluates assigned personnel; assists in aircraft accident investigation. *AOCS:* Able to perform the duties required for AOC; supervises and coordinates all the munitions-loading crews of an airwing (several squadrons); prepares local directives and instructions; prepares correspondence; interviews, evaluates, and assigns personnel; organizes and schedules training programs and evaluates their effectiveness; administers long-range planned maintenance program; monitors quality control program; makes recommendations on utilization, capabilities, reliability, and operations for airwing ordnance units. *AOCM:* Able to perform the duties required for AOCS; evaluates aviation ordnance equipment safety requirements and initiates recommendations for improvements; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; initiates action to satisfy requirements; establishes goals and priorities; reviews and evaluates space, personnel, equipment, and material requirements; provides technical information and advice on the capabilities, limitations, reliability, and use of aviation ordnance, aircraft armament, and related equipment; evaluates the effectiveness of special weapons team training; evaluates new armament equipment and aviation ordnance materials; implements procedures for emergency storage facilities; develops operating budgets and monitors expenditures.

Recommendation, AO3

In the lower-division baccalaureate/associate degree category, 3 semester hours in weaponry maintenance, 1 in industrial corrosion control, and 1 in basic electricity (6/87).

Recommendation, AO2

In the lower-division baccalaureate/associate degree category, 3 semester hours in weaponry maintenance, 1 in industrial corrosion control, 1 in basic electricity, 1 in basic electricity troubleshooting, and 2 in industrial safety (6/87).

Recommendation, AO1

In the lower-division baccalaureate/associate degree category, 3 semester hours in weaponry maintenance, 1 in industrial corrosion control, 1 in basic electricity, 1 in basic electricity troubleshooting, 2 in industrial safety, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (6/87).

Recommendation, AOC

In the lower-division baccalaureate/associate degree category, 3 semester hours in weaponry maintenance, 1 in industrial corrosion control, 1 in basic electricity, 1 in basic electricity troubleshooting, 2 in industrial safety, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management and 1 in shop management (6/87).

Recommendation, AOCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in weaponry maintenance, 1 in industrial corrosion control, 1 in basic electricity, 1 in basic electricity troubleshooting, 2 in industrial safety, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, 3 in management planning, and 1 for field experience in management (6/87).

Recommendation, AOCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in weaponry maintenance, 1 in industrial corrosion control, 1 in basic electricity, 1 in basic electricity troubleshooting, 2 in industrial safety, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, 3 in management planning, 3 in industrial management and problem solving, and 2 for field experience in management (6/87).

NER-AQ-002

AVIATION FIRE CONTROL TECHNICIAN

AQ3
AQ2
AQ1
AQC
AQCS

Exhibit Dates: 1/90–12/90. Effective 1/91, the AQ rating was discontinued and its duties were incorporated into the Aviation Electronics Technician rating (NER-AT-003).

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AQ3:* Aviation Fire Control Technician, Third Class (E-4). *AQ2:* Aviation Fire Control Technician, Second Class (E-5). *AQ1:* Aviation Fire Control Technician, First Class (E-6). *AQC:* Chief Aviation Fire Control Technician (E-7). *AQCS:* Senior Chief Aviation Fire Control Technician (E-8). *AVCM:* Master Chief Avionics Technician (E-9).

Description

Summary: Maintains and repairs aircraft weapons control systems, including weapons control radar, computers, Doppler computing sights, gyroscopes and related equipment, and air-launched guided missile equipment. Duty assignments are designated as either O-Level (troubleshooting and replacing modular systems on aircraft) or I-Level (disassembling, repairing, and bench-testing modules); persons assigned the AQ rating receive equivalent training and must pass the same advancement examination, regardless of whether duty assignments have been O-Level, I-Level, or both. *AQ3:* Troubleshoots and repairs electrical and electronic weapons control systems (such as radar, infrared, optical, laser, and television systems; analog and digital computers; and gyro stabilizing systems and sensing elements) and related accessories and equipment; follows standard checkout procedures to locate and repair system malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter; applies a working knowledge of hydraulic systems; completes maintenance forms and inventories parts and supplies; performs avionics corrosion control. *AQ2:* Able to perform the duties required for AQ3; performs troubleshooting and repair tasks not covered in standard service manuals; knows how to use oscilloscope, signal generators, and meggers; may have attended short training programs in troubleshooting and repairing specialized equipment; serves as crew leader, supervising from two to three persons on a job; maintains technical library; interprets technical directives. *AQ1:* Able to perform the duties required for AQ2; serves as shift supervisor, supervising from eight to nine persons; diagnoses nonroutine malfunctions and demonstrates repair techniques; conducts on-the-job training programs; inspects and approves completed work assignments; prepares weekly schedules of preventive maintenance. *AQC:* Able to perform the duties required for AQ1; serves as shop supervisor, supervising 15-20 persons; plans and implements safety instruction and inspection programs; prepares maintenance duty schedules; prepares periodic or recurring reports; prepares quarterly schedules of preventive maintenance; supervises quality control programs; provides technical assistance in aircraft accident investigations. *AQCS:* Able to perform the duties required for AQC; oversees three shops; serves as liaison with other Navy units; administers quality control programs; prepares directives, material, and training requirements; administers long-range planned maintenance program and training programs and evaluates their effectiveness; recommends changes in methods and techniques to promote safety and operational readiness.

Recommendation, AQ3

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, and 3 in basic mathematics (10/87).

Recommendation, AQ2

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, and 3 in instrumentation/measurement (10/87).

Recommendation, AQ1

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (10/87).

Recommendation, AQC

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management and 1 in shop management (10/87).

Recommendation, AQCS

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, 3 in management planning, and 1 for field experience in management (10/87).

NER-AS-003

AVIATION SUPPORT EQUIPMENT TECHNICIAN

AS3
AS2
AS1
ASC
ASCS
ASCM

Exhibit Dates: 1/90–Present.

Occupational Field: 6 (Aviation Ground Support).

Career Pattern

AN: Airman (E-3). *AS3:* Aviation Support Equipment Technician, Third Class (E-4). *AS2:* Aviation Support Equipment Technician, Second Class (E-5). *AS1:* Aviation Support Equipment Technician, First Class (E-6). *ASC:* Chief Aviation Support Equipment Technician (E-7). *ASCS:* Senior Chief Aviation Support Equipment Technician (E-8). *ASCM:* Master Chief Aviation Support Equipment Technician (E-9).

Description

Summary: Performs preventive and corrective maintenance on aviation ground support equipment, mobile fire fighting units, material handling and moving units; inspects and repairs gasoline, diesel and turbine ground power units; services transmissions, hydraulic and pneumatic systems, cryogenic and air conditioning equipment; performs troubleshooting and repair of electrical control and motors; replaces electrical generating components; adjusts mechanical and electrical regulators; provides training and work schedules; manages distribution and maintenance schedules for ground support equipment at different command levels. *AS3:* Uses electrical and mechanical test equipment to aid in the diagnosis and repair of aviation ground support equipment that utilizes various electrical and mechanical drive and control systems; tests and installs electrical and mechanical components; completes maintenance logs and applicable records. *AS2:* Able to perform the duties required for AS3; conducts training; provides coordination between the repair teams; assists in the inspection and repair of the more advanced drive or control units; generates and correlates repair logs. *AS1:* Able to perform the duties required for AS2; analyzes and diagnoses malfunctions of the hydraulics, pneumatic, electrical power generating, chassis and chassis electrical systems and internal combustion engines and air conditioning and gas turbine compressors; determines corrective action; maintains shop files and technical publications; plans shop work schedule; supervises subordinates; performs quality control inspections; prepares schedules of preventive maintenance;

requisitions and is responsible for materials and equipment. *ASC:* Able to perform the duties required for AS1; supervises training of personnel who operate, maintain, and repair aviation support equipment; coordinates administration, planning, and work load scheduling; organizes facilities for repair and maintenance of equipment and components; is responsible for ordering, storing, and inventory of materials and supplies for organizational unit. *ASCS:* Able to perform the duties required for ASC; is responsible for the administrative function of the organizational unit; organizes, schedules, and evaluates training; reviews, evaluates, and recommends improvements to maintenance procedures; administers long-range maintenance program. *ASCM:* Able to perform the duties required for ASCS; responsible for the administration of assigned organizational unit, including planning, organizing, and implementing activities in compliance with policy statements; reviews personnel, equipment, and material requirements; establishes objectives and sets priorities in area of responsibility; evaluates and monitors maintenance planning and quality control programs; develops operating budget and monitors expenditures; assists in formulating and implementing safety program; provides technical information and assistance to subordinates; prepares maintenance evaluation and staff studies.

Recommendation, AS3

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic shop practices, 2 in basic electricity, 1 in diesel engines, and 1 in basic hydraulics (3/91).

Recommendation, AS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic shop practices, 3 in basic electricity, 2 in diesel engines, 2 in basic hydraulics, 1 in electric generators, 1 in electric control systems, and 1 in personnel supervision (3/91).

Recommendation, AS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic shop practices, 3 in basic electricity, 2 in diesel engines, 2 in basic hydraulics, 2 in electric generators, 2 in electric control systems, 1 in shop management, 2 in records and information management, 2 in personnel supervision, and 2 in maintenance management (3/91).

Recommendation, ASC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic shop practices, 3 in basic electricity, 2 in diesel engines, 2 in basic hydraulics, 2 in electric generators, 2 in electric control systems, 2 in shop management, 2 in records and information management, 3 in personnel supervision, and 3 in maintenance management (3/91).

Recommendation, ASCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic shop practices, 3 in basic electricity, 2 in diesel engines, 2 in basic hydraulics, 2 in electric generators, 2 in electric control systems, 3 in shop management, 3 in records and information management, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, and 3 in organizational management (3/91).

Recommendation, ASCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic shop practices, 3 in basic electricity, 2 in diesel engines, 2 in basic hydraulics, 2 in electric generators, 2 in electric control systems, 3 in shop management, 3 in records and information management, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in organizational management, and 3 in communication techniques for managers (3/91).

NER-AT-002

Aviation Electronics Technician
AT3
AT2
AT1
ATC
ATCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AT3:* Aviation Electronics Technician, Third Class (E-4). *AT2:* Aviation Electronics Technician, Second Class (E-5). *AT1:* Aviation Electronics Technician, First Class (E-6). *ATC:* Chief Aviation Electronics Technician (E-7). *ATCS:* Senior Chief Aviation Electronics Technician (E-8). *AVCM:* Master Chief Avionics Technician (E-9).

Description

Summary: Maintains and repairs electronic communications systems and inflight navigation and detection systems on aircraft. Duty assignments are designated as either O-Level (troubleshooting and replacing module systems on aircraft) or I-Level (disassembling, repairing, and bench-testing modules); persons assigned the AT rating receive equivalent training and must pass the same advancement examinations, regardless of whether duty assignments have been O-Level, I-Level, or both. *AT3:* Troubleshoots and repairs radar systems, radar and tactical displays, IFF/SIF equipment, radar altimeters, Doppler navigation equipment, radio navigation equipment, analog computing devices, communications systems, CIC and electronics countermeasures equipment, infrared devices, recorder systems, and aircraft digital data systems; follows standard checkout procedures to locate and repair malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter, frequency counters, and specialized system test equipment; completes maintenance forms and inventories parts and supplies; performs avionics corrosion control. *AT2:* Able to perform the duties required for AT3; performs troubleshooting and repair tasks not covered in standard service manuals; knows how to use oscilloscope, signal generator, and megger; may have attended short training programs in troubleshooting and repairing specialized equipment; serves as crew leader, supervising from two to three persons on a job; maintains technical library and inventory records; inspects, tests, and maintains aircraft transmission lines and antennas. *AT1:* Able to perform the duties required for AT2; serves as shift supervisor, supervising from eight to nine persons; diagnoses nonroutine malfunctions and demonstrates repair techniques; inspects and approves completed work assignments including the installation of new parts and components; conducts on-the-job training program and maintains training records; prepares weekly schedules of preventive maintenance. *ATC:* Able to perform the duties required for AT1; serves as shop supervisor, supervising 15-20 persons; plans and implements safety instruction and inspection programs; prepares maintenance duty schedules; prepares periodic or recurring reports; prepares quarterly schedules of preventive maintenance; supervises quality control programs; provides technical assistance in aircraft accident investigations. *ATCS:* Able to perform the duties required for ATC; oversees three shops; serves as liaison with other Navy units; administers quality control programs; prepares directives, instructions, and correspondence; advises on personnel, production, material, and training requirements; administers long-range planned maintenance program and training programs and evaluates their effectiveness; recommends changes in methods and techniques to promote safety and operational readiness.

Recommendation, AT3

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, and 3 in basic mathematics (6/87).

Recommendation, AT2

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, and 3 in instrumentation/measurement (6/87).

Recommendation, AT1

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (6/87).

Recommendation, ATC

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management and 1 in shop management (6/87).

Recommendation, ATCS

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, 3 in management planning, and 1 for field experience in management (6/87).

NER-AT-003

Aviation Electronics Technician
AT3
AT2
AT1
ATC
ATCS

Exhibit Dates: 1/91–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AT3:* Aviation Electronics Technician, Third Class (E-4). *AT2:* Aviation Electronics Technician, Second Class (E-5). *AT1:* Aviation Electronics Technician, First Class (E-6). *ATC:* Chief Aviation Electronics Technician (E-7). *ATCS:* Senior Chief Aviation Electronics Technician (E-8). *ATCM:* Master Chief Aviation Electronics Technician (E-9).

Description

Summary: Maintains and repairs electronic communications systems and inflight navigation and detection systems on aircraft. Duty assignments are designated as either O-Level (troubleshooting and replacing module systems on aircraft) or I-Level (disassembling, repairing, and bench-testing modules); persons assigned the AT rating receive equivalent training and must pass the same advancement examinations, regardless of whether duty assignments have been O-Level, I-Level, or both. *AT3:* Bench tests components of and maintains radar systems, radar, and tactical displays, IFF/SIF equipment, radar altimeters, Doppler navigation equipment, radio navigation equipment, analog computing devices, communications systems, CIC and electronics countermeasures equipment, laser and fiber optical, infrared devices, recorder systems, and aircraft digital data systems; follows standard checkout procedures to locate malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter, frequency counters, and specialized system test equipment; completes maintenance forms and inventories parts and supplies; maintains technical library; performs avionics corrosion control. *AT2:* Able to perform the duties required for AT3; performs troubleshooting and repair of all preceding tasks, plus tasks not covered in standard service manuals; knows how to use oscilloscope, signal generator, and megger; may have attended training programs in troubleshooting and repairing specialized equipment; serves as crew leader. *AT1:* Able to perform the duties required for AT2; serves as work center supervisor; diagnoses nonroutine malfunctions and demonstrates repair techniques; inspects and approves completed work assignments including the installation of new parts and components; conducts on-the-job training program and maintains training records; prepares weekly schedules of preventive maintenance. *ATC:* Able to perform the duties required for AT1; plans and implements safety instruction and inspection programs; prepares periodic or recurring reports; supervises quality control programs. *ATCS:* Able to perform the duties required for ATC; serves as liaison with other Navy units; monitors quality assurance programs; prepares directives, instructions, and correspondence; supervises personnel, production, material, and training requirements; recommends changes in methods and techniques to promote safety and operational readiness.

Recommendation, AT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 1 in digital principles, 1 in solid state electronics, 1 in computer systems and organization, 2 in communications (electronics), and 3 in electronic systems troubleshooting and maintenance (5/92).

Recommendation, AT2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 2 in computer systems and organization, 3 in communications (electronics), and 3 in electronics systems troubleshooting and maintenance (5/92).

Recommendation, AT1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 3 in computer systems and organization, 3 in communications (electronics), 3 in electronic systems troubleshooting and maintenance, 2 in personnel supervision, 2 in maintenance management, and 2 in records and information management (5/92).

Recommendation, ATC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 3 in computer systems and organization, 3 in communications (electronics), 3 in electronic systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management (5/92).

Recommendation, ATCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 3 in computer systems and organization, 3 in communications (electronics), 3 in electronic systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

NER-AV-001

Avionics Technician, Master Chief
AVCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress to AVCM, Master Chief Avionics Technician (E-9), from AXCS, Senior Chief Aviation Antisubmarine Warfare Technician (E-8); AECS, Senior Chief Aviation Electrician's Mate (E-8); ATCS, Senior Chief Aviation Electronics Technician (E-8); or AQCS, Senior Chief Aviation Fire Control Technician (E-8).

Description

Able to perform the duties required for AXCS (Senior Chief Aviation Antisubmarine Warfare Technician), AECS (Senior Chief Aviation Electrician's Mate), ATCS (Senior Chief Aviation Electronics Technician), or AQCS (Senior Chief Aviation Fire Control Technician); plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; reviews and evaluates personnel, equipment, and material requirements; prepares maintenance plans and staff studies for management review; exercises techniques of aircraft maintenance and personnel management; develops and implements preventive maintenance, corrosion control, and quality assurance programs; develops operating budget and monitors expenditures.

Recommendation

In the vocational certificate category, use the recommendation for AE1 (Aviation Electrician's Mate First Class) in exhibit NER-AE-001 (in the 1954-1989 Guide), or NER-AE-002, AT2 (Aviation Electronics Technician Second Class) in exhibit NER-AT-001 (in the 1954-1989 Guide), or NER-AT-002, or AQ2 (Aviation Fire Control Technician Second Class) in exhibit NER-AQ-001 (in the 1954-1989 Guide), or NER-AQ-002, or AX1 (Aviation Antisubmarine Warfare Technician, First Class) in exhibit NER-AX-001 (in the 1954-1989 Guide) or NER-AX-002, as appropriate. In the lower-division baccalaureate/associate degree category, add 1 semester hour in technical writing to the recommendation for AECS (Senior Chief Aviation Electrician's Mate) in exhibit NER-AE-001 (in the 1954-1989 Guide) or NER-AE-002, or ATCS (Senior Chief Aviation Electronics Technician) in exhibit NER-AT-001 (in the 1954-1989 Guide) or NER-AT-002, or AQCS (Senior Chief Aviation Fire Control Technician) in exhibit NER-AQ-001 (in the 1954-1989 Guide) or NER-AQ-002, or AXC (Chief Aviation Antisubmarine Warfare Technician) in exhibit NER-AX-001 (in the 1954-1989 Guide) or NER-AX-002, as appropriate. In the upper-division baccalaureate category, 6 semester hours for a practicum in management, 3 in management problems, 3 in human relations, and additional credit in quality control on the basis of institutional evaluation (2/77).

NER-AV-002

Avionics Technician, Master Chief
AVCM

Exhibit Dates: 1/91–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

May progress to AVCM, Master Chief Avionics Technician (E-9), from AECS, Senior Chief Aviation Electrician's Mate (E-8) or ATCS, Senior Chief Aviation Electronics Technician (E-8).

Description

Able to perform the duties required for AECS (Senior Chief Aviation Electrician's Mate) or ATCS (Senior Chief Aviation Electronics Technician); plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; reviews and evaluates personnel, equipment, and material requirements; prepares maintenance plans and staff studies for management review; exercises techniques for aircraft maintenance and personnel management; develops and implements preventive maintenance, corrosion control, and quality assurance programs; develops operating budget and monitors expenditures.

Recommendation

In the lower-division baccalaureate/associate degree category, use the credit recommended for either AECS (Senior Chief Aviation Electrician's Mate) in exhibits NER-AE-001 (in the 1954-1989 Guide) or NER-AE-002, or for ATCS (Senior Chief Aviation Electronic's Technician) in exhibits NER-AT-001 (in the 1954-1989 Guide) or NER-AT-002. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in operations management, 3 in management problems, and 3 in communication techniques for managers (5/92).

NER-AW-001

Aviation Antisubmarine Warfare Operator
(Acoustic)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Antisubmarine Warfare Technician, Third Class (E-4). *AW2:* Aviation Antisubmarine Warfare Technician, Second Class (E-5). *AW1:* Aviation Antisubmarine Warfare Technician, First Class (E-6). *AWC:* Chief Aviation Antisubmarine Warfare Technician (E-7). *AWCS:* Senior Chief Aviation Antisubmarine Warfare Technician (E-8). *AWCM:* Master Chief Aviation Antisubmarine Warfare Technician (E-9).

Description

Summary: Performs general flight crew duties; operates antisubmarine warfare equipment. *AW3:* Operates various acoustic sensors in order to discover and track submarines; identifies and classifies targets; identifies sounds produced by surface ships, submarines, marine life, and other natural phenomena; determines acoustic energy propagation characteristics under various oceanographic conditions. *AW2:* Able to perform the duties required for AW3; identifies submarine evasion tactics; classifies targets in more detail than an AW3 and has a fuller understanding of the effects of the ocean environment on antisubmarine warfare data. *AW1:* Able to perform the duties required for AW2; may serve as an instructor; performs reconstruction of antisubmarine tactical exercises; navigates using airborne radar; has knowledge of nonacoustic antisubmarine warfare; analyzes multitarget situations; supervises and instructs personnel in use of equipment. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an antisubmarine warfare division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; performs as antisubmarine warfare training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in survey of oceanography (8/79).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of oceanography. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 5 semester hours in survey of oceanography, 2 in survey of meteorology, and 3 in personnel supervision. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 5 semester hours in oceanography, 3 in meteorology, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 5 semester hours in oceanography, 3 in meteorology, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 for management problems; if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 5 semester hours in oceanography, 3 in meteorology, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems; if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

NER-AW-002

Aviation Antisubmarine Warfare Operator
(Non-Acoustic)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Antisubmarine Warfare Technician, Third Class (E-4). *AW2:* Aviation Antisubmarine Warfare Technician, Second Class (E-5). *AW1:* Aviation Antisubmarine Warfare Technician, First Class (E-6). *AWC:* Chief Aviation Antisubmarine Warfare Technician (E-7). *AWCS:* Senior Chief Aviation Antisubmarine Warfare Technician (E-8). *AWCM:* Master Chief Aviation Antisubmarine Warfare Technician (E-9).

Description

Summary: Performs general flight crew duties; operates antisubmarine warfare equipment. *AW3:* Operates equipment to detect submarines by electromagnetic or infrared means; operates airborne radar to detect, identify, and interpret targets and to avoid hazardous weather; advises pilot of expected weather conditions. *AW2:* Able to perform the duties required for AW3; identifies submarine evasion tactics; interprets effects of deception devices. *AW1:* Able to perform the duties required for AW2; performs reconstruction of airborne antisubmarine warfare tactical exercises; navigates using airborne radar; instructs personnel in the tactical use of airborne antisubmarine warfare equipment; may serve as an instructor; supervises and instructs personnel in use of equipment. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an antisubmarine warfare division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; performs as antisubmarine warfare training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 2 semester hours in survey of meteorology (8/79).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 3 semester hours in survey of meteorology. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 3 in survey of oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 4 in survey of oceanography, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 4 in survey of oceanography, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems; if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 4 in survey of oceanography, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems; if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

NER-AW-003

AVIATION ANTISUBMARINE WARFARE OPERATOR
(HELICOPTER)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Antisubmarine Warfare Technician, Third Class (E-4). *AW2:* Aviation Antisubmarine Warfare Technician, Second Class (E-5). *AW1:* Aviation Antisubmarine Warfare Technician, First Class (E-6). *AWC:* Chief Aviation Antisubmarine Warfare Technician (E-7). *AWCS:* Senior Chief Aviation Antisubmarine Warfare Technician (E-8). *AWCM:* Master Chief Aviation Antisubmarine Warfare Technician (E-9).

Description

Summary: Performs general flight crew duties; operates antisubmarine warfare equipment. *AW3:* Uses both acoustic and nonacoustic devices to detect and track submarines; serves as crewman on a helicopter; uses airborne radar to detect, identify, and intercept targets and avoid hazardous weather; uses airborne sonar to detect, classify, and track; identifies sounds produced by surface ships, submarines, evasion devices, marine life, and other natural phenomena. *AW2:* Able to perform the duties required for AW3; operates equipment and interprets results; identifies submarine evasion tactics; interprets effects of deception devices. *AW1:* Able to perform the duties required for AW2; may serve as an instructor; performs reconstruction of helicopter tactical exercises; analyzes multitarget situations; supervises and instructs personnel in use of equipment. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an antisubmarine warfare division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; performs as antisubmarine warfare training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in emergency medical techniques, 2 in survey of meteorology, and 3 in survey of oceanography (8/79).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 4 semester hours in emergency medical techniques, 2 in survey of meteorology, and 4 in survey of oceanography. In the upper-division baccalaureate category, if served as instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 2 in survey of meteorology, 5 in survey of oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 2 in survey of meteorology, 5 in survey of oceanography, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 2 in survey of meteorology, 5 in survey of oceanography, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems; if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 2 in survey of meteorology, 5 in survey of oceanography, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems; if served as an instructor, 3 semester hours for a practicum in teaching (8/79).

NER-AW-004

AVIATION ANTISUBMARINE WARFARE OPERATOR
(ACOUSTIC)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 1/91–11/93.

Occupational Field: 24 (Aviation Sensor Operations).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Antisubmarine Warfare Operator, Third Class (E-4). *AW2:* Aviation Antisubmarine Warfare Operator, Second Class (E-5). *AW1:* Aviation Antisubmarine Warfare Operator, First Class (E-6). *AWC:* Chief Aviation Antisubmarine Warfare Operator (E-7). *AWCS:* Senior Chief Aviation Antisubmarine Warfare Operator (E-8). *AWCM:* Master Chief Aviation Antisubmarine Warfare Operator (E-9).

Description

Summary: Performs general flight duties; operates antisubmarine warfare equipment; performs flight-related diagnostic functions using manual and computer routines; analyzes and classifies antisubmarine warfare data; assists in aircrew briefing and debriefing; provides tactical information relating to military objectives. *AW3:* Operates various acoustic sensors in order to discover and track submarines; identifies and classifies targets; identifies sounds produced by surface ships, submarines, marine life, and other natural phenomena; determines acoustic energy propagation characteristics under various oceanographic conditions; performs diagnostic functions on aircraft equipment; prepares aircraft discrepancy forms for maintenance action; maintains flight crew records and uses correct emergency procedures under simulation. *AW2:* Able to perform the duties required for AW3; identifies submarine evasion tactics; classifies targets in more detail than an AW3 and has a fuller understanding of the effect of ocean environment on antisubmarine warfare (ASW) data; instructs personnel in aircraft duties and tactical use of airborne ASW equipment; maintains ASW operator training records. *AW1:* Able to perform the duties required for AW2; performs reconstruction of antisubmarine tactical exercises; navigates using airborne radar; has knowledge of nonacoustic antisubmarine warfare; performs analyses in multitarget situations; supervises and instructs personnel in use of equipment; performs postflight analyses of multitarget environments. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an antisubmarine warfare division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; performs as antisubmarine warfare training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of oceanography (3/91).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of oceanography (3/91).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 5 semester hours in survey of oceanography, 2 in survey of meteorology, and 3 in personnel supervision (3/91).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 5 semester hours in survey of oceanography, 3 in survey of meteorology, and 3 in personnel supervision (3/91).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 5 semester hours in survey of oceanography, 3 in survey of meteorology, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/91).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 5 semester hours in survey of oceanography, 3 in survey of meteorology, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/91).

NER-AW-005

Aviation Antisubmarine Warfare Operator
(Non-Acoustic)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 1/91–11/93.

Occupational Field: 24 (Aviation Sensor Operations).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Antisubmarine Warfare Operator, Third Class (E-4). *AW2:* Aviation Antisubmarine Warfare Operator, Second Class (E-5). *AW1:* Aviation Antisubmarine Warfare Operator, First Class (E-6). *AWC:* Chief Aviation Antisubmarine Warfare Operator (E-7). *AWCS:* Senior Chief Aviation Antisubmarine Warfare Operator (E-8). *AWCM:* Master Chief Aviation Antisubmarine Warfare Operator (E-9).

Description

Summary: Performs general flight crew duties; operates antisubmarine warfare equipment; performs flight-related diagnostic functions using manual and computer routines; analyzes and classifies antisubmarine warfare data; assists in aircrew briefing and debriefing; provides tactical information relating to military objectives. *AW3:* Operates equipment to detect submarine by electromagnetic or infrared means; operates airborne radar to detect, identify, and interpret targets and to avoid hazardous weather; advises pilot of expected weather conditions; maintains and uses logs and publications; performs operational check on airborne nonacoustic systems; maintains crew flight time log books; navigates with radar. *AW2:* Able to perform the duties required for AW3; identifies submarine evasion tactics; interprets effects of deception devices; maintains antisubmarine warfare operator training records. *AW1:* Able to perform the duties required for AW2; performs reconstruction of airborne antisubmarine warfare exercises; supervises and instructs personnel in use of equipment. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures; conducts and supervises safety and inspection programs. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an antisubmarine warfare division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; serves as antisubmarine warfare training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in survey of meteorology (3/91).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 3 semester hours in survey of meteorology (3/91).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 3 in survey of oceanography, and 3 in personnel supervision (3/91).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 4 in survey of oceanography, and 3 in personnel supervision (3/91).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 4 in survey of oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/91).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 4 semester hours in survey of meteorology, 4 in survey of oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/91).

NER-AW-006

Aviation Antisubmarine Warfare Operator
(Helicopter)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 1/91–11/93.

Occupational Field: 24 (Aviation Sensor Operations).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Antisubmarine Warfare Operator, Third Class (E-4). *AW2:* Aviation Antisubmarine Warfare Operator, Second Class (E-5). *AW1:* Aviation Antisubmarine Warfare Operator, First Class (E-6). *AWC:* Chief Aviation Antisubmarine Warfare Operator (E-7). *AWCS:* Senior Chief Aviation Antisubmarine Warfare Operator (E-8). *AWCM:* Master Chief Aviation Antisubmarine Warfare Operator (E-9).

Description

Summary: Performs general flight duties; operates antisubmarine warfare (ASW) equipment; performs flight-related diagnostic functions using manual and computer routines; analyzes and classifies ASW data; assists in aircrew briefing and debriefing; provides tactical information relating to military objectives. *AW3:* Uses both acoustic and nonacoustic devices to detect and track submarines; serves as crewman on a helicopter; uses airborne radar to detect, identify, and intercept targets and avoid hazardous weather; uses airborne sonar to detect, classify, and track; identifies sounds produced by surface ships, submarines, evasion devices, marine life, and other natural phenomena; analyzes environmental data and implements tactical procedures; fixes targets acoustically; navigates with radar; analyzes acoustic signatures; relates capabilities to environmental conditions; applies electronic support measures contacts; performs operational checks on airborne acoustic and nonacoustic systems. *AW2:* Able to perform the duties required for AW3; operates equipment and interprets results; identifies submarine evasion tactics; interprets effects of deception devices; instructs personnel in aircrew duties and in tactical use of airborne ASW equipment; maintains ASW operator training records. *AW1:* Able to perform the duties required for AW2; performs reconstruction of helicopter tactical exercises; performs analyses in multitarget situations; supervises and instructs personnel in use of equipment; prepares flight schedules; instructs personnel in use of ASW tactical and intelligence publications; briefs personnel on search and rescue procedures. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an antisubmarine warfare division; prepares correspondence; organizes and schedules training programs; evaluates all flight-related operational check requirements for ASW equipment. *AWCM:* Able to perform the duties required for AWCS; performs as antisubmarine warfare training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in emergency medical techniques, 3 in survey of meteorology, and 4 in survey of oceanography (3/91).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 4 semester hours in emergency medical techniques, 3 in survey of meteorology, and 4 in survey of oceanography (3/91).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 3 in survey of meteorology, 5 in survey of oceanography, and 3 in personnel supervision (3/91).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 3 in survey of meteorology, 5 in survey of oceanography, and 3 in personnel supervision (3/91).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 3 in survey of meteorology, 5 in survey of oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/91).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency medical techniques, 3 in survey of meteorology, 5 in survey of oceanography, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/91).

NER-AW-007

Aviation Warfare Systems Operator
(Acoustic)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 12/93–Present.

Occupational Field: 24 (Aviation Sensor Operations).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Warfare Systems Operator, Third Class (E-4). *AW2:* Aviation Warfare Systems Operator, Second Class (E-5). *AW1:* Aviation Warfare Systems Operator, First Class (E-6). *AWC:* Chief Aviation Warfare Systems Operator (E-7). *AWCS:* Senior Chief Aviation Warfare Systems Operator (E-8). *AWCM:* Master Chief Aviation Warfare Systems Operator (E-9).

Description

Summary: Performs general flight duties; operates aviation warfare systems equipment; performs flight-related diagnostic functions using manual and computer routines; analyzes and classifies aviation warfare systems data; assists in aircrew briefing and debriefing; provides tactical information relating to military objectives. *AW3:* Operates various acoustic sensors in order to discover and track submarines; identifies and classifies targets; identifies sounds produced by surface ships, submarines, and marine life and other natural phenomena; determines acoustic energy propagation characteristics under various oceanographic conditions; performs diagnostic functions on aircraft equipment; prepares aircraft discrepancy forms for maintenance action; maintains flight crew records and uses correct emergency procedures to effect rescues at sea. *AW2:* Able to perform the duties required for AW3; identifies submarine evasion tactics; classifies targets in more detail than an AW3 and has a fuller understanding of the effect of ocean environment on aviation warfare systems (AW) data; instructs personnel in aircraft duties and tactical use of airborne AW systems equipment; maintains AW systems operator training records. *AW1:* Able to perform the duties required for AW2; performs reconstruction of aviation warfare systems tactical exercises; navigates using airborne radar; has knowledge of nonacoustic aviation warfare systems; performs analyses in multitarget situations; supervises and instructs personnel in use of equipment; performs postflight analyses of multitarget environments. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an aviation warfare systems division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; performs as aviation warfare systems training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 2 semester hours in oceanography concepts, 1 in meteorology concepts, 1 in basic electronics, 1 in emergency rescue techniques (including medical), 1 in physical conditioning, and 1 in computer applications (2/98).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 3 semester hours in oceanography concepts, 2 in meteorology concepts, 1 in basic electronics, 1 in emergency rescue techniques (including medical), 1 in physical conditioning, and 1 in computer applications (2/98).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 4 semester hours in oceanography concepts, 2 in meteorology concepts, 1 in basic electronics, 1 in emergency rescue techniques (including medical), 1 in physical conditioning, 1 in computer applications, and 3 in personnel supervision (2/98).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 4 semester hours in oceanography concepts, 3 in meteorology concepts, 1 in basic electronics, 1 in emergency rescue techniques (including medical), 1 in physical conditioning, 1 in computer applications, 3 in resource management, and 3 in personnel supervision (2/98).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 4 semester hours in oceanography concepts, 3 in meteorology concepts, 1 in basic electronics, 1 in emergency rescue techniques (including medical), 1 in physical conditioning, 1 in computer applications, 3 in resource management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (2/98).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 4 semester hours in oceanography concepts, 3 in meteorology concepts, 1 in basic electronics, 1 in emergency rescue techniques (including medical), 1 in physical conditioning, 1 in computer applications, 3 in resource management, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (2/98).

NER-AW-008

Aviation Warfare Systems Operator (Non-
Acoustic)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 12/93–Present.

Occupational Field: 24 (Aviation Sensor Operations).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Warfare Systems Operator, Third Class (E-4). *AW2:* Aviation Warfare Systems Operator, Second Class (E-5). *AW1:* Aviation Warfare Systems Operator, First Class (E-6). *AWC:* Chief Aviation Warfare Systems Operator (E-7). *AWCS:* Senior Chief Aviation Warfare Systems Operator (E-8). *AWCM:* Master Chief Aviation Warfare Systems Operator (E-9).

Description

Summary: Performs general flight crew duties; operates aviation warfare systems equipment; performs flight-related diagnostic functions using manual and computer routines;

analyzes and classifies aviation warfare systems data; assists in aircrew briefing and debriefing; provides tactical information relating to military objectives. *AW3:* Operates equipment to detect submarine by electromagnetic or infrared means; operates airborne radar to detect, identify, and interpret targets and to avoid hazardous weather; advises pilot of expected weather conditions; maintains and uses logs and publications; performs operational checks on airborne nonacoustic systems; maintains crew flight time log books; navigates with radar. *AW2:* Able to perform the duties required for AW3; identifies submarine evasion tactics; interprets effects of deception devices; maintains aviation warfare systems operator training records. *AW1:* Able to perform the duties required for AW2; performs reconstruction of airborne aviation warfare systems exercises; supervises and instructs personnel in use of equipment. *AWC:* Able to perform the duties required for AW1; conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures; conducts and supervises safety and inspection programs. *AWCS:* Able to perform the duties required for AWC; analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an aviation warfare systems division; prepares correspondence; organizes and schedules training programs. *AWCM:* Able to perform the duties required for AWCS; serves as aviation warfare systems training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 2 semester hours in meteorology concepts, 1 in oceanographic concepts, 1 in basic electronics, 1 in physical conditioning, 1 in emergency rescue techniques (including medical), and 1 in computer applications (2/98).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology concepts, 2 in oceanographic concepts, 1 in basic electronics, 1 in physical conditioning, 1 in emergency rescue techniques (including medical), and 1 in computer applications (2/98).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology concepts, 3 in oceanographic concepts, 1 in basic electronics, 1 in physical conditioning, 1 in emergency rescue techniques (including medical), 1 in computer applications, and 3 in personnel supervision (2/98).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology concepts, 4 in oceanographic concepts, 1 in basic electronics, 1 in physical conditioning, 1 in emergency rescue techniques (including medical), 1 in computer applications, 3 in personnel supervision, and 3 in resource management (2/98).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology concepts, 4 in oceanographic concepts, 1 in basic electronics, 1 in physical conditioning, 1 in emergency rescue techniques (including medical), 1 in computer applications, 3 in personnel supervision, and 3 in resource management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource resource management, and 3 in management problems (2/98).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in meteorology concepts, 4 in oceanographic concepts, 1 in basic electronics, 1 in physical conditioning, 1 in emergency rescue techniques (including medical), 1 in computer applications, 3 in personnel supervision, and 3 in resource management. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (2/98).

NER-AW-009

AVIATION WARFARE SYSTEMS OPERATOR
(HELICOPTER)
AW3
AW2
AW1
AWC
AWCS
AWCM

Exhibit Dates: 12/93–Present.

Occupational Field: 24 (Aviation Sensor Operations).

Career Pattern

AN: Airman (E-3). *AW3:* Aviation Warfare Systems Operator, Third Class (E-4). *AW2:* Aviation Warfare Systems Operator, Second Class (E-5). *AW1:* Aviation Warfare Systems Operator, First Class (E-6). *AWC:* Chief Aviation Warfare Systems Operator (E-7). *AWCS:* Senior Chief Aviation Warfare Systems Operator (E-8). *AWCM:* Master Chief Aviation Warfare Systems Operator (E-9).

Description

Summary: Performs general flight duties; operates aviation warfare (AW) systems equipment; performs flight-related diagnostic functions using manual and computer routines; analyzes and classifies AW data; assists in aircrew briefing and debriefing; provides practical information relating to military objectives. *AW3:* Uses both acoustic and nonacoustic devices to detect and track submarines; serves as crewmember on a helicopter; uses airborne radar to detect, identify, and intercept targets and avoid hazardous weather; uses airborne sonar to detect, classify, and track; identifies sounds produced by surface ships, submarines, evasion devices, and marine life and other natural phenomena; analyzes environmental data and implements tactical procedures; fixes targets acoustically; navigates with radar; analyzes acoustic signatures; relates capabilities to environmental conditions; applies electronic support measures contacts; performs operational checks on airborne acoustic and nonacoustic systems; functions as a member of search and rescue team; provides emergency medical assistance. *AW2:* Operates equipment and interprets results; identifies submarine evasion tactics; interprets effects of deception devices; instructs personnel in aircrew duties and in tactical use of airborne AW equipment; provide training for subordinates maintains operator training records. *AW1:* Performs reconstruction of helicopter tactical exercises; performs analyses in multitarget situations; supervises and instructs personnel in use of equipment; prepares flight schedules; instructs personnel in use of antisubmarine warfare (ASW) tactical and intelligence publications; briefs personnel on search and rescue procedures. *AWC:* Conducts airborne exercises which include the use of both acoustic and nonacoustic equipment; assists in establishing tactical procedures. *AWCS:* Analyzes and evaluates operational efficiency for each aircrew; determines adequate areas of operation and training; performs the duties of squadron operations department manager; supervises an aviation warfare systems division; prepares correspondence; organizes and schedules training programs; evaluates all flight-related operational check requirements for ASW equipment. *AWCM:* Performs as aviation warfare systems training coordinator; plans, organizes, implements, and controls activities in compliance with policy statements; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, AW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in emergency rescue techniques (including medical), 2 in meteorology concepts, 2 in oceanography concepts, 1 in basic electronics, 2 in physical conditioning, 1 in first aid, and 1 in computer applications (2/98).

Recommendation, AW2

In the lower-division baccalaureate/associate degree category, 4 semester hours in emergency rescue techniques (including medical), 2 in meteorology concepts, 3 in oceanography concepts, 1 in basic electronics, 2 in physical conditioning, 1 in first aid, and 1 in computer applications (2/98).

Recommendation, AW1

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency rescue techniques (including medical), 3 in meteorology concepts, 4 in oceanography concepts, 1 in basic electronics, 2 in physical conditioning, 1 in first aid, 1 in computer applications, and 3 in personnel supervision (2/98).

Recommendation, AWC

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency rescue techniques (including medical), 3 in meteorology concepts, 4 in oceanography concepts, 1 in basic electronics, 2 in physical conditioning, 1 in first aid, 1 in computer applications, 3 in personnel supervision, and 3 in resource management (2/98).

Recommendation, AWCS

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency rescue techniques (including medical), 3 in meteorology concepts, 4 in oceanography concepts, 1 in basic electronics, 2 in physical conditioning, 1 in first aid, 1 in computer applications, 3 in personnel supervision, and 3 in resource management. In the upper-division baccalaureate category, 3 for field experience in management, 3 in human resource management, and 3 in management problems (2/98).

Recommendation, AWCM

In the lower-division baccalaureate/associate degree category, 5 semester hours in emergency rescue techniques (including medical), 3 in meteorology concepts, 4 in oceanography concepts, 1 in basic electronics, 2 in physical conditioning, 1 in first aid, 1 in computer applications, 3 in personnel supervision, and 3 in resource management. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (2/98).

NER-AX-002

Aviation Antisubmarine Warfare Technician

AX3
AX2
AX1
AXC
AXCS

Exhibit Dates: 1/90–12/90. Effective 1/91, the AX rating was discontinued and its duties were incorporated into the Aviation Electronics Technician rating (see NER-AT-003).

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AX3:* Aviation Antisubmarine Warfare Technician, Third Class (E-4). *AX2:* Aviation Antisubmarine Warfare Technician, Second Class (E-5). *AX1:* Aviation Antisubmarine Warfare Technician, First Class (E-6). *AXC:* Chief Aviation Antisubmarine Warfare Technician (E-7). *AXCS:* Senior Chief Aviation Antisubmarine Warfare Technician (E-8). *AVCM:* Master Chief Avionics Technician (E-9).

Description

Summary: Maintains and repairs aviation antisubmarine warfare sensor equipment and associated integrated systems, including those relating to magnetic anomaly detection, underwater detection, acoustic analysis, electronic support measures, computer/data processing, electro-optics, data display, data link, and electromechanical recorders; operates and maintains associated test equipment. Duty assignments are designated either O-Level (troubleshooting and replacing modular systems) or I-Level (disassembling, repairing, and bench-testing modules); persons assigned the AX rating receive equivalent training and must pass the same advancement examinations regardless of whether duty assignments have been O-Level, I-Level, or both. *AX3:* Troubleshoots and repairs radar systems, radar and tactical displays, digital data systems, infrared devices, data link equipment, analog computing devices and acoustic magnetic tape recorder systems; follows standard checkout procedures to locate and repair malfunctions; reads schematics and block diagrams; uses volt-ohm-milliammeter, frequency counters, and specialized system test equipment; completes maintenance forms and inventories parts and supplies; performs avionics corrosion control. *AX2:* Able to perform the duties required for AX3; performs troubleshooting and repair tasks not covered in standard service manuals; knows how to use oscilloscope, signal generator, and megger; may have attended short training programs in troubleshooting and repairing specialized equipment; serves as crew leader, supervising from two to three persons on a job; maintains technical library and inventory records; inspects, tests, and maintains aircraft transmissions, lines, and antennas; troubleshoots and repairs acoustic processing equipment, recorder systems, combat information center and electronic countermeasure equipment, electronics support measures equipment, and underwater detection equipment. *AX1:* Able to perform the duties required for AX2; serves as shift supervisor, supervising from eight to nine persons; diagnoses non-routine malfunctions and demonstrates repair techniques; inspects and approves completed work assignments including the installation of new parts and components; conducts on-the-job training programs and maintains training records; prepares weekly schedules of preventive maintenance. *AXC:* Able to perform the duties required for AX1; serves as shop supervisor, supervising 15-20 persons; plans and implements safety instruction and inspection programs; prepares maintenance duty schedules; prepares periodic or recurring reports; prepares quarterly schedules of preventive maintenance; supervises quality control programs; provides technical assistance in aircraft accident investigations. *AXCS:* Able to perform the duties required for AXC; oversees three shops; serves as liaison with other Navy units; administers quality control programs; prepares directives, instructions, and correspondence; advises on personnel, production, material, and training requirements; administers long-range planned maintenance program and training programs and evaluates their effectiveness; recommends changes in methods and techniques to promote safety and operational readiness.

Recommendation, AX3

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, and 3 in basic mathematics (10/87).

Recommendation, AX2

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, and 3 in instrumentation/measurement (10/87).

Recommendation, AX1

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management (10/87).

Recommendation, AXC

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 3 in technical report writing, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in industrial management and 1 in shop management (10/87).

Recommendation, AXCS

In the vocational certificate category, 3 semester hours in beginning electrical/electronic laboratory. In the lower-division baccalaureate/associate degree category, 3 semester hours in AC fundamentals, 3 in DC fundamentals, 3 in communications systems troubleshooting, 3 in basic mathematics, 3 in electrical circuitry, 3 in schematic reading, 3 in instrumentation/measurement, 3 in technical report writing, 3 in personnel supervision, and 3 in industrial maintenance planning. In the upper-division baccalaureate category, 2 semester hours in industrial management, 2 in shop management, 3 in management planning, and 1 for field experience in management (10/87).

NER-AZ-001

Aviation Maintenance Administrationman

AZ3
AZ2
AZ1
AZC
AZCS
AZCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3) *AZ3:* Aviation Maintenance Administrationman, Third Class (E-4). *AZ2:* Aviation Maintenance Administrationman, Second Class (E-5). *AZ1:* Aviation Maintenance Administrationman, First Class (E-6). *AZC:* Chief Aviation Maintenance Administrationman (E-7). *AZCS:* Senior Chief Aviation Maintenance Administrationman (E-8). *AZCM:* Master Chief Aviation Maintenance Administrationman (E-9).

Description

Summary: Performs or supervises clerical duties including typewriting, office machine operations, preparation of correspondence and reports, filing, and records administration for the Navy aviation maintenance program. *AZ3:* Types correspondence and reports (a straight-copy typing rate of at least 20 words per minute is required); uses duplicating or photocopy equipment; maintains files and a technical library. *AZ2:* Able to perform the duties required for AZ3; prepares, verifies, and maintains aircraft logs and records; prepares and processes work requests; determines the need for updating aeronautical technical libraries and distributes updates. *AZ1:* Able to perform the duties required for AZ2; supervises administrative procedures of the office; analyzes data; prepares data in narrative, tabular, chart, or graphic form. *AZC:* Able to perform the duties required for AZ1; schedules aircraft and equipment for maintenance; coordinates unscheduled maintenance actions; screens and interprets messages and instructions; analyzes reports; determines data requirements for aircraft maintenance activities. *AZCS:* Able to perform the duties required for AZC; determines personnel and material needs; prepares directives and instructions for improving operations; develops a program for interviewing, evaluating, and assigning personnel for maximum utilization; organizes, schedules, and evaluates training programs; develops objectives for preventive maintenance and quality assurance programs; coordinates the preparation and dissemination of safety instructions applicable to aviation maintenance; provides information and advice on utilization, capabilities, reliability, and operations. *AZCM:* Able to perform the duties required for AZCS; formulates guidelines for safety and assists in the analysis of aircraft accident reports; forecasts future requirements; plans and initiates action to satisfy requirements; establishes goals and priorities; reviews and evaluates space, personnel, equipment, and material requirements; recommends, prepares, and submits aviation maintenance staff studies; plans, organizes implements, and controls activities in compliance with policy statements, operation orders, and directives; plans and forecasts work load requirements; administers aircraft and component inventory, requisition, receipt, transfer, and survey; develops operating budgets and monitors expenditures.

Recommendation, AZ3

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in filing, 2 in clerical office procedures, and additional credit in typewriting on the basis of institutional evaluation (2/77).

Recommendation, AZ2

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in filing, 3 in clerical office procedures, 3 in record keeping, and additional credit in typewriting on the basis of institutional evaluation (2/77).

Recommendation, AZ1

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in filing, 3 in clerical office procedures, 3 in record keeping, 3 in office management, and additional credit in typewriting on the basis of institutional evaluation (2/77).

Recommendation, AZC

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in filing, 3 in clerical office procedures, 3 in record keeping, 3 in office management, 2 in business communication, 1 in personnel supervision, and additional credit in typewriting on the basis of institutional evaluation (2/77).

Recommendation, AZCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in filing, 3 in clerical office procedures, 3 in record keeping, 3 in office management, 2 in business communication, 2 in personnel supervision, and additional credit in typewriting on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/77).

Recommendation, AZCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in office machines, 2 in filing, 3 in clerical office procedures, 3 in record keeping, 3 in office management, 2 in business communication, 3 in personnel supervision, 3 in management electives, 3 in technical writing, and additional credit in typewriting on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in management problems, and additional credit in human relations and personnel management on the basis of institutional evaluation (2/77).

NER-AZ-002

AVIATION MAINTENANCE ADMINISTRATIONMAN

AZ3
AZ2
AZ1
AZC
AZCS
AZCM

Exhibit Dates: 1/91–Present.

Occupational Field: 5 (Aviation Maintenance/Weapons).

Career Pattern

AN: Airman (E-3). *AZ3:* Aviation Maintenance Administrationman, Third Class (E-4). *AZ2:* Aviation Maintenance Administrationman, Second Class (E-5). *AZ1:* Aviation Maintenance Administrationman, First Class (E-6). *AZC:* Chief Aviation Maintenance Administrationman (E-7). *AZCS:* Senior Chief Aviation Maintenance Administrationman (E-8). *AZCM:* Master Chief Aviation Maintenance Administrationman (E-9).

Description

Summary: Performs or supervises clerical duties including data entry, typewriting, office machine operations, preparation of correspondence and reports, filing, and records administration for the Navy aviation maintenance program. *AZ3:* Types correspondence and reports; uses personal computer and duplicating or photocopy equipment; maintains files and technical library. *AZ2:* Able to perform the duties required for AZ3; prepares, verifies, and maintains aircraft logs and records; prepares and processes work requests; determines the need for updating aeronautical technical libraries; distributes updates. *AZ1:* Able to perform the duties required for AZ2; supervises administrative procedures of the office; analyzes data; prepares data in narrative, tabular, chart, or graphic form. *AZC:* Able to perform the duties required for AZ1; schedules aircraft and equipment for maintenance; coordinates unscheduled maintenance actions; screens and interprets messages and instructions; analyzes reports; determines data requirements for aircraft maintenance activities. *AZCS:* Able to perform the duties required for AZC; determines personnel and material needs; prepares directives and instructions for improving operations; develops a program for interviewing, evaluating, and assigning personnel for maximum utilization; organizes, schedules, and evaluates training programs; develops objectives for preventive maintenance and quality assurance programs; coordinates the preparation and dissemination of safety instructions applicable to aviation maintenance; provides information and advice on utilization, capabilities, reliability, and operations. *AZCM:* Able to perform the duties required for AZCS; formulates guidelines for safety and assists in the analysis of aircraft accident reports; forecasts future requirements; plans and initiates action to satisfy requirements; establishes goals and priorities; reviews and evaluates space, personnel, equipment, and material requirements; recommends, prepares, and submits aviation maintenance staff studies; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; plans and forecasts work load requirements; administers aircraft and component inventory, requisition, receipt, transfer, and survey; develops operating budgets and monitors expenditure.

Recommendation, AZ3

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 2 in clerical procedures, and 2 in records and information management (5/92).

Recommendation, AZ2

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in clerical procedures, and 3 in records and information management (5/92).

Recommendation, AZ1

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in clerical procedures, 3 in records and information management, 2 in office administration, 2 in business communication, 2 in personnel supervision, and 2 in materiel management (5/92).

Recommendation, AZC

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in clerical procedures, 3 in records and information management, 3 in office administration, 3 in technical writing, 2 in business communication, 3 in personnel supervision, and 3 in materiel management (5/92).

Recommendation, AZCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in clerical procedures, 3 in records and information management, 3 in office administration, 3 in technical writing, 2 in business communication, 3 in personnel supervision, and 3 in materiel management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, AZCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in clerical procedures, 3 in records and information management, 3 in office administration, 3 in technical writing, 2 in business communication, 3 in personnel supervision, and 3 in materiel management. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-BM-002

BOATSWAIN'S MATE

BM3
BM2
BM1
BMC
BMCS
BMCM

Exhibit Dates: 1/90–4/96.

Occupational Field: 1 (General Seamanship).

Career Pattern

SN: Seaman (E-3). *BM3:* Boatswain's Mate, Third Class (E-4). *BM2:* Boatswain's Mate, Second Class (E-5). *BM1:* Boatswain's Mate, First Class (E-6). *BMC:* Chief Boatswain's Mate (E-7). *BMCS:* Senior Chief Boatswain's Mate (E-8). *BMCM:* Master Chief Boatswain's Mate (E-9).

Description

Summary: Knows shipboard operations including stevedoring and maintenance; operates and maintains small boats, deck equipment, and machinery; is knowledgeable in rigging, ship's security, deck seamanship, navigation, and piloting. *BM3:* Prepares metal and wood surface for primers and paints; prepares and applies primers and paints; rigs cargo handling equipment to replenish ship at sea; handles cargo in port; knows signals for directing winch and crane operators; cares for and stows natural fiber, synthetic, and wire rope; makes fenders and eye splices; handles small boats as coxswain; uses navigational aids; understands limitations of small boats in rough weather, low visibility, and capacity; interprets nautical rules of the road regarding crossing and overtaking situations and avoiding collisions; reads compasses; steers by compass; operates and maintains sewing machine for sewing canvas; stands watch as boatswain's-mate-of-watch at sea and in port; uses, maintains, repairs, and overhauls blocks, tackles, and shipboard rigging. *BM2:* Able to perform the duties required for BM3; supervises cargo handling; supervises rigging for fueling at sea, using the astern, constant-tension, span-wire, and close-in methods; maintains and overhauls anchors, chains, cables, connecting links, and shackles; performs damage control and basic fire fighting procedures; rigs for towing and being towed; inspects and maintains lifeboats, life rafts, and survival equipment; launches and recovers lifeboats and ship's small craft; maintains hull records, painting records, and inventories of equipment, tools, and paint; obtains replacement equipment, tools, and paint; prepares hull reports; supervises 6-40 persons performing work details, deck functions, general upkeep of ship, and maintenance and repair of deck equipment; maintains discipline; serves as master-at-arms and police petty officer. *BM1:* Able to perform the duties required for BM2; supervises repair parties during shipboard emergencies; determines ship's position by bearing, cross-bearing, and running fix; computes effects of wind and current; determines the appropriate rigging method to use; plans, organizes, and assigns work for 6-40 persons and trains and supervises them in all aspects of seamanship, equipment maintenance, and spare parts inventory; keeps records and logs. *BMC:* Able to perform the duties required for BM1; supervises the handling and sorting of ammunition and flammables; supervises ship repair crews and the care, maintenance, and overhaul of ground tackle and rigging for mooring; operates and maneuvers service craft and other small craft in amphibious docking, undocking, and rescue operations; uses tide and current tables and navigational aids; uses the three-minute rule to determine speed-distance-time; has a working knowledge of the inland and international nautical rules of the road. *BMCS:* Able to perform the duties required for BMC; calculates the stability of the ship; coordinates shipboard activities during cargo operations and anchoring and mooring while underway and in port; supervises persons in all rates in a division of 20-30 persons; organizes and schedules training programs; prepares information directives and instructions for attaining organizational objectives; prepares correspondence; establishes and implements a program for evaluating and assigning personnel; evaluates the division's effectiveness and initiates improvements. *BMCM:* Able to perform the duties required for BMCS; establishes objectives and priorities in area of responsibility; administers departmental long-range programs; coordinates salvage and rescue operations; develops operating budgets and monitors expenditures; plans, organizes, and implements all deck departmental operations aboard ship in accordance with policies and procedures; reviews and evaluates personnel, equipment, and material requirements and makes appropriate recommendations.

Recommendation, BM3

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship and 2 in record keeping (12/89).

Recommendation, BM2

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, and 2 in personnel supervision (12/89).

Recommendation, BM1

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 3 in personnel supervision, and 1 in supply management (12/89).

Recommendation, BMC

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 3 in personnel supervision, 2 in supply management, 3 in coastal navigation and piloting, and 1 in personnel administration (12/89).

Recommendation, BMCS

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 3 in personnel supervision, 2 in supply management, 3 in coastal navigation and piloting, and 1 in personnel administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, BMCM

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 3 in personnel supervision, 2 in supply management, 3 in coastal navigation and piloting, and 1 in personnel administration. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-BM-003

BOATSWAIN'S MATE
BM3
BM2
BM1
BMC
BMCS
BMCM

Exhibit Dates: 5/96–Present.

Occupational Field: 1 (General Seamanship).

Career Pattern

SN: Seaman (E-3). *BM3:* Boatswain's Mate, Third Class (E-4). *BM2:* Boatswain's Mate, Second Class (E-5). *BM1:* Boatswain's Mate, First Class (E-6). *BMC:* Chief Boatswain's Mate (E-7). *BMCS:* Senior Chief Boatswain's Mate (E-8). *BMCM:* Master Chief Boatswain's Mate (E-9).

Description

Summary: Knows shipboard operations including stevedoring and maintenance; operates and maintains small boats, deck equipment, and machinery; is knowledgeable in rigging, ship's security, deck seamanship, navigation, and piloting. *BM3:* Prepares metal and wood surface for primers and paints; prepares and applies primers and paints; rigs cargo handling equipment to replenish ship at sea; handles cargo in port; knows signals for directing winch and crane operators; cares for and stows natural fiber, synthetic, and wire rope; makes fenders and eye splices; handles small boats as coxswain; uses navigational aids; understands limitations of small boats in rough weather, low visibility, and capacity; interprets nautical rules of the road regarding crossing and overtaking situations and avoiding collisions; reads compasses; steers by compass; operates and maintains sewing machine for sewing canvas; stands watch as boatswain's-mate-of-watch at sea and in port; uses, maintains, repairs, and overhauls blocks, tackles, and shipboard rigging. *BM2:* Able to perform the duties required for BM3; supervises cargo handling; supervises rigging for fueling at sea, using the astern, constant-tension, span-wire, and close-in methods; maintains and overhauls anchors, chains, cables, connecting links, and shackles; performs damage control and basic fire fighting procedures; rigs for towing and being towed; inspects and maintains lifeboats, life rafts, and survival equipment; launches and recovers lifeboats and ship's small craft; maintains hull records, painting records, and inventories of equipment, tools, and paint; obtains replacement equipment, tools, and paint; prepares hull reports; supervises 6-40 persons performing work details, deck functions, general upkeep of ship, and maintenance and repair of deck equipment; maintains discipline; serves as master-at-arms and police petty officer. *BM1:* Able to perform the duties required for BM2; supervises repair parties during shipboard emergencies; determines ship's position by bearing, cross-bearing, and running fix; computes effects of wind and current; determines the appropriate rigging method to use; plans, organizes, and assigns work for 6-40 persons and trains and supervises them in all aspects of seamanship, equipment maintenance, and spare parts inventory; keeps records and logs. *BMC:* Able to perform the duties required for BM1; supervises the handling and sorting of ammunition and flammables; supervises ship repair crews and the care, maintenance, and overhaul of ground tackle and rigging for mooring; operates and maneuvers service craft and other small craft in amphibious docking, undocking, and rescue operations; uses tide and current tables and navigational aids; uses the three-minute rule to determine speed-distance-time; has a working knowledge of the inland and international nautical rules of the road. *BMCS:* Able to perform the duties required for BMC; calculates the stability of the ship; coordinates shipboard activities during cargo operations and anchoring and mooring while underway and in port; supervises persons in all rates in a division of 20-30 persons; organizes and schedules training programs; prepares information directives and instructions for attaining organizational objectives; prepares correspondence; establishes and implements a program for evaluating and assigning personnel; evaluates the division's effectiveness and initiates improvements. *BMCM:* Able to perform the duties required for BMCS; establishes objectives and priorities in area of responsibility; administers departmental long-range programs; coordinates salvage and rescue operations; develops operating budgets and monitors expenditures; plans, organizes, and implements all deck departmental operations aboard ship in accordance with policies and procedures; reviews and evaluates personnel, equipment, and material requirements and makes appropriate recommendations.

Recommendation, BM3

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 2 in record keeping, and 1 in introduction to computers (5/96).

Recommendation, BM2

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 1 in introduction to computers, and 2 in personnel supervision (5/96).

Recommendation, BM1

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 1 in introduction to computers, 3 in personnel supervision, and 1 in supply management (5/96).

Recommendation, BMC

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 2 in introduction to computers, 1 in hazardous materials handling, 3 in personnel supervision, 2 in supply management, and 3 in coastal navigation and piloting (5/96).

Recommendation, BMCS

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 2 in introduction to computers, 1 in hazardous materials handling, 3 in personnel supervision, 2 in supply management, and 3 in coastal navigation and piloting. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (5/96).

Recommendation, BMCM

In the vocational certificate category, 1 semester hour in small boat handling, 1 in basic fire fighting, 2 in rigging, and 2 in boat maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 1 in advanced seamanship, 3 in record keeping, 2 in introduction to computers, 1 in hazardous materials handling, 3 in personnel supervision, 2 in supply management, and 3 in coastal navigation and piloting. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (5/96).

NER-BT-002

BOILER TECHNICIAN
BT3
BT2
BT1
BTC
BTCS
BTCM

Exhibit Dates: 1/90–4/96.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *BT3:* Boiler Technician, Third Class (E-4). *BT2:* Boiler Technician, Second Class (E-5). *BT1:* Boiler Technician, First Class (E-6). *BTC:* Chief Boiler Technician (E-7). *BTCS:* Senior Chief Boiler Technician (E-8). *BTCM:* Master Chief Boiler Technician (E-9).

Description

Summary: Operates and performs maintenance on marine boilers, pumps, and other fire room machinery. *BT3:* Performs tests on boiler water, fuel, and lubricating oils; operates and performs preventive maintenance on boilers and boiler auxiliary equipment; operates distilling plants; tests and calibrates gauges; exercises environmental control procedures to prevent or minimize air pollution and oil spills; completes maintenance data forms. *BT2:* Able to perform the duties required for BT3; recognizes and corrects boiler operating malfunctions; may supervise a fire room watch; completes maintenance reports; inventories installed equipment and orders repair parts and tools; computes and records daily fuel oil and water receipts and expenditures. *BT1:* Able to perform the duties required for BT2; inspects boilers and advises on replacement and repair actions; installs boiler furnace brickwork and insulation; instructs fire room personnel in maintenance procedures and equipment operation; reviews maintenance data forms; prepares weekly maintenance schedules. *BTC:* Able to perform the duties required for BT1; supervises maintenance and repair work; supervises oil spill containment and collecting; prepares environment pollution reports; conducts on-the-job training; monitors maintenance and handling of logs, records, accounts, and reports; prepares quarterly maintenance schedules. *BTCS:* Able to perform the duties required for BTC; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares directives and instructions for attaining organization objectives; prepares correspondence; organizes and schedules training programs; administers a long-range planned maintenance program. *BTCM:* Able to perform the duties required for BTCS; reviews personnel, equipment, and material requirements and forecasts future requirements; supervises inspections; develops operating budgets and monitors expenditures.

Recommendation, BT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic machine engineering, 1 in blueprint reading, and 6 in maintenance technology (3/90).

Recommendation, BT2

In the lower-division baccalaureate/associate degree category, 5 semester hours in basic machine engineering, 1 in blueprint reading, 8 in maintenance technology, and 1 in record keeping (3/90).

Recommendation, BT1

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic machine engineering, 1 in blueprint reading, 9 in maintenance technology, 1 in record keeping, 2 in principles of supervision, and 2 in maintenance management (3/90).

Recommendation, BTC

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic machine engineering, 1 in blueprint reading, 9 in maintenance technology, 2 in record keeping, 3 in principles of supervision, and 3 in maintenance management (3/90).

Recommendation, BTCS

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic machine engineering, 1 in blueprint reading, 9 in maintenance technology, 2 in record keeping, 3 in principles of supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, BTCM

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic machine engineering, 1 in blueprint reading, 9 in maintenance technology, 2 in record keeping, 3 in principles of supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/90).

NER-BT-003

BOILER TECHNICIAN
BT3
BT2
BT1
BTC
BTCS
BTCM

Exhibit Dates: 5/96–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *BT3:* Boiler Technician, Third Class (E-4). *BT2:* Boiler Technician, Second Class (E-5). *BT1:* Boiler Technician, First Class (E-6). *BTC:* Chief Boiler Technician (E-7). *BTCS:* Senior Chief Boiler Technician (E-8). *BTCM:* Master Chief Boiler Technician (E-9).

Description

Summary: Operates and performs maintenance on shipboard equipment that produces or uses steam, including propulsion engines, generators, boilers, turbines, and air compressors. *BT3:* Performs tests on boiler water, fuel, and lubricating oils; operates and performs preventive maintenance on steam and auxiliary equipment; operates distilling plants; tests and calibrates gauges; exercises environmental control procedures to prevent or minimize air pollution and oil spills; completes maintenance data forms. *BT2:* Able to perform the duties required for BT3; recognizes and corrects steam equipment operating malfunctions; may supervise a fire room watch; completes maintenance reports; inventories installed equipment and orders repair parts and tools; computes and records daily fuel oil and water receipts and expenditures. *BT1:* Able to perform the duties required for BT2; inspects steam equipment and advises on replacement and repair actions; instructs fire room personnel in maintenance procedures and equipment operation; reviews maintenance data forms; prepares weekly maintenance schedules. *BTC:* Able to perform the duties required for BT1; supervises maintenance and repair work; supervises oil spill containment and collecting; prepares environment pollution reports; conducts on-the-job training; monitors maintenance and handling of logs, records, accounts, and reports; prepares quarterly maintenance schedules. *BTCS:* Able to perform the duties required for BTC; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares directives and instructions for attaining organization objectives; prepares correspondence; organizes and schedules training programs; administers a long-range planned maintenance program. *BTCM:* Able to perform the duties required for BTCS; reviews personnel, equipment, and material requirements and forecasts future requirements; supervises inspections; develops operating budgets and monitors expenditures.

Recommendation, BT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in power systems engineering, 1 in blueprint reading, 6 in power systems maintenance, and 1 in applied computer technology (5/96).

Recommendation, BT2

In the lower-division baccalaureate/associate degree category, 4 semester hours in power systems engineering, 2 in blueprint reading, 8 in power systems maintenance, and 2 in applied computer technology (5/96).

Recommendation, BT1

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering, 3 in blueprint reading, 9 in power systems maintenance, 3 in applied computer technology, 2 in personnel supervision, and 2 in maintenance management. In the upper-division baccalaureate category, 2 semester hours for field experience in management (5/96).

Recommendation, BTC

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering, 3 in blueprint reading, 9 in power systems maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 3 semester hours in management problems and 3 for field experience in management (5/96).

Recommendation, BTCS

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering, 3 in blueprint reading, 9 in power systems maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 4 semester hours for field experience in management and 4 in management problems (5/96).

Recommendation, BTCM

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering, 3 in blueprint reading, 9 in power systems maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (5/96).

NER-BU-001

BUILDER
BU3
BU2
BU1
BUC
BUCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *BU3:* Builder, Third Class (E-4). *BU2:* Builder, Second Class (E-5). *BU1:* Builder, First Class (E-6). *BUC:* Chief Builder (E-7). *BUCS:* Senior Chief Builder (E-8). *CUCM:* Master Chief Contructionman (E-9).

Description

Summary: Performs tasks required for construction, maintenance, and repair of wooden, concrete, and masonry structures, concrete pavement, and waterfront and underwater structures. *BU3:* Places reinforcing steel; erects form members and strip forms; installs asphalt and vinyl floor coverings, interior wall coverings, door and window trim, moldings, and glass; mixes, places, and finishes concrete; constructs masonry, metal, light wood frame, and timber structures; operates and performs operator maintenance on assigned vehicles and on diesel and gas driven air compressors and portable generators; performs calculations for simple areas and volumes; identifies and interprets grade and site stakes. *BU2:* Able to perform the duties required for BU3; works from construction drawings and specifications; draws simple shop drawings and sketches; prepares standard requisitions; performs shoring of small excavations; performs layout for and directs crews in erecting and stripping concrete forms; establishes lines and elevations and layout for concrete masonry unit and brick construction; performs layout plan and directs crews in the construction of light wood frame and timber structures; erects pre-engineered buildings; directs crews in mixing, placing, finishing, and curing concrete; computes quantities of materials for various concrete mixes, mortar, and stucco; applies roofing materials; operates and maintains paint spraying and concrete pumping equipment; operates and performs operator maintenance on stud guns; computes volume of irregularly shaped solids. *BU1:* Able to perform the duties required for BU2; prepares work progress reports; implements training for team and crew members; performs shoring of large excavations, buildings and structures; directs installation of all types of interior walls, tile, and suspended acoustic tile systems; directs pile-driving operations and teams in the construction of wood, masonry, and metal structures; directs crews in concrete construction; organizes daily work assignments; prepares equipment, manpower, and material estimates; uses principles of Critical Path Method scheduling; performs construction and maintenance inspections; conducts slump tests on concrete and adjusts mixes; performs duties of carpenter shop supervisor, shop planner, and maintenance scheduler. *BUC:* Able to perform the duties required for BU1; drafts correspondence; prepares reports; supervises and coordinates all unit tasks; provides technical advice and assistance on plans and specifications and on construction and maintenance techniques; implements maintenance and cost control program; prepares and maintains progress charts. *BUCS:* Able to perform the duties required for BUC; provides information and advice on operations in own area of responsibility; prepares local directives and instructions for attaining organizational objectives and improving operations; establishes and implements a program to assure maximum utilization of personnel; determines requirements for advanced planning; coordinates equipment assignment; is capable of directing the operation and maintenance of all utilities and the repair, alteration and maintenance of all facilities under the cognizance of a public works department; directs transportation and equipment services to all activities and supervises maintenance of all equipment used for that purpose; establishes maintenance and cost control program; coordinates the preparation and submission of related reports.

Recommendation, BU3

In the vocational certificate category, 3 semester hours in introduction to construction, 3 in construction techniques, and 2 in equipment operation and maintenance. In the lower-division baccalaureate/associate degree category, 1 semester hour in construction materials and 1 in construction techniques (1/77).

Recommendation, BU2

In the vocational certificate category, 6 semester hours in construction techniques, 3 in introduction to construction, 3 in construction materials, 2 in blueprint reading, and 2 in equipment operation and maintenance. In the lower-division baccalaureate/associate degree category, 2 semester hours in construction techniques, 1 in construction materials, and 2 in general plans and specifications (1/77).

Recommendation, BU1

In the vocational certificate category, 9 semester hours in construction techniques, 3 in introduction to construction, 3 in construction materials, 3 in estimating and scheduling, 3 in technical mathematics, 2 in blueprint reading, and 2 in equipment operation and maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in construction techniques, 2 in general plans and specifications, 2 in fundamentals of supervision, 1 in construction materials, 1 in construction estimating, 1 in construction management, and 1 in technical mathematics (1/77).

Recommendation, BUC

In the vocational certificate category, 9 semester hours in construction techniques, 3 in introduction to construction, 3 in construction materials, 3 in estimating and scheduling, 3 in technical mathematics, 2 in blueprint reading, and 2 in equipment operation and maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in construction techniques, 3 in fundamentals of supervision, 3 for field experience in construction management, 3 in general plans and specifications, 2 in construction management, 2 in records and cost control, 2 in construction materials, 1 in construction estimating, and 1 in technical mathematics (1/77).

Recommendation, BUCS

In the vocational certificate category, 9 semester hours in construction techniques, 3 in introduction to construction, 3 in construction materials, 3 in estimating and scheduling, 3 in technical mathematics, 2 in blueprint reading, and 2 in equipment operation and maintenance. In the lower-division baccalaureate/associate degree category, 6 semester hours for field experience in construction management, 3 in construction techniques, 3 in fundamentals of supervision, 3 in general plans and specifications, 3 in records and cost control, 2 in construction management, 2 in construction materials, 2 in technical writing, 1 in construction estimating, and 1 in technical mathematics. In the upper-division baccalaureate category, 3 semester hours for a practicum in management and 3 in human relations (1/77).

NER-BU-002

BUILDER
BU3
BU2
BU1
BUC
BUCS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Construction (E-3). *BU3:* Builder, Third Class (E-4). *BU2:* Builder, Second Class (E-5). *BU1:* Builder, First Class (E-6). *BUC:* Chief Builder (E-7). BUCS Senior Chief Builder (E-8). *CUCM:* Master Chief Constructionman (E-9).

Description

Summary: Performs tasks required for construction, maintenance, and repair of wooden, concrete, and masonry structures, concrete pavement, and waterfront and underwater structures. *BU3:* Places reinforcing steel; erects form members and strip forms; installs asphalt and vinyl floor coverings, interior wall coverings, door and window trim, moldings and glass; mixes, places, and finishes concrete; constructs masonry, metal, light wood frame, and timber structures; operates and performs operator maintenance on assigned vehicles and on diesel and gas driven air compressors and portable generators; performs calculations for simple areas and volumes; identifies and interprets grade and site stakes. *BU2:* Able to perform the duties required for BU3; works from construction drawings and specifications; draws simple shop drawings and sketches; prepares standard requisitions; performs shoring of small excavations; performs layout for and directs crews in erecting and stripping concrete forms, establishes lines and elevations and layout of concrete masonry unit and brick construction; performs layout plan and directs crews in the construction of light wood frame and timber structures; erects pre-engineered buildings; directs crews in mixing; placing, finishing, and curing concrete; computes quantities of materials for various concrete mixes, mortar, and stucco; applies roofing materials; operates and maintains paint spraying and concrete pumping equipment; operates and performs operator maintenance on stud guns; computes volume of irregularly shaped solids. *BU1:* Able to perform the duties required for BU2; prepares work progress reports; implements training for team and crew members; performs shoring of large excavations, buildings, and structures; directs installation for all types of interior walls, tile, and suspended acoustic tile systems; directs pile-driving operations and team in the construction of wood, masonry, and metal structures; directs crews in concrete construction; organizes daily work assignments; prepares equipment, manpower, and material estimates; uses principles of Critical Path Method scheduling; performs construction and maintenance inspections; conducts slump tests on concrete and adjusts mixes; performs duties of carpenter shop supervisor, shop planner, and maintenance scheduler. *BUC:* Able to perform the duties required for BU1; drafts correspondence; prepares reports; supervises and coordinates all unit tasks; provides technical advice and assistance on plans and specifications and on construction and maintenance techniques; implements maintenance and cost control program; prepares and maintains progress charts. *BUCS:* Able to perform the duties required for BUC; provides information and advice on operations in own area of responsibility; prepares local directives and instructions for attaining organizational objectives and improving operations; establishes and implements a program to assure maximum utilization of personnel; determines requirements for advanced planning; coordinates equipment assignment; is capable of directing the operation and maintenance of all utilities and the repair, alteration, and maintenance of all facilities under the cognizance of a public works department; directs transportation and equipment services to all activities and supervises maintenance of all equipment used for that purpose; establishes maintenance and cost control program; coordinates the preparation and submission of related reports.

Recommendation, BU3

In the lower-division baccalaureate/associate degree category, 2 semester hours in introduction to construction, 2 in construction techniques, and 2 in mechanical maintenance (3/91).

Recommendation, BU2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in construction techniques, 2 in construction materials, 2 in blueprint reading, 1 in specifications, 2 in mechanical maintenance, and 1 in technical mathematics (3/91).

Recommendation, BU1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in construction techniques, 3 in construction materials, 2 in blueprint reading, 2 in specifications, 2 in mechanical maintenance, 2 in construction management, 2 in personnel supervision, and 1 in technical mathematics (3/91).

Recommendation, BUC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in construction techniques; 3 in construction materials, 3 in blueprint reading, 2 in mechanical maintenance, 3 in construction management, 3 in construction estimating, 3 in personnel supervision, 2 in records and information management, 2 in specifications, and 1 in technical mathematics (3/91).

Recommendation, BUCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in construction techniques, 3 in construction materials, 3 in blueprint reading, 2 in mechanical maintenance, 3 in construction management, 4 in construction estimating, 3 in personnel supervision, 2 in records and information management, 2 in specifications, and 1 in technical mathematics. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-CE-001

CONSTRUCTION ELECTRICIAN
CE3
CE2
CE1
CEC
CECS

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *CE3:* Construction Electrician, Third Class (E-4). *CE2:* Construction Electrician, Second Class (E-5). *CE1:* Construction Electrician, First Class (E-6). *CEC:* Chief Construction Electrician (E-7). *CECS:* Senior Chief Construction Electrician (E-8). *UTCM:* Master Chief Utilitiesman (E-9).

Description

Summary: Plans, supervises, and performs tasks required to install, operate, service, and overhaul electric generating and distribution systems, wire communication systems, and associated equipment. *CE3:* Erects and climbs poles; installs storage and dry cell batteries; installs electrical appliances and equipment; operates vehicles and performs prestart checks and operator maintenance; performs preventive maintenance and minor repairs on electrical power tools, appliances, and equipment and on interior wiring systems, power distribution systems, and tactical field telephone systems. *CE2:* Able to perform the duties required for CE3; draws simple shop drawings and sketches; reads and works from construction drawings and specifications; prepares time cards and material requisitions; installs advanced-base type generators and distribution panels, public address equipment, electrical conduits, wiring systems, and automatic controls for boilers and air conditioning and refrigeration equipment; operates and performs prestart checks and operator maintenance on auger trucks and bucket trucks; maintains and repairs tactical field telephones, appliances, and equipment, wiring systems, and automatic controls for boilers and air conditioning and refrigeration systems, distribution systems, and public address systems. *CE1:* Able to perform the duties required for CE2; prepares as-built drawings; prepares work progress and material usage reports; conducts personnel readiness program interviews; maintains standard forms used by the maintenance or utilities division of a public works activity; implements training for team or crew members; directs personnel in the installation and operation of advanced-base type generating equipment, security and air field lighting systems, and fire detection and alarm systems; organizes work assignments; prepares estimates from drawings and specifications; conducts inspections; troubleshoots systems; performs technical maintenance and repairs; calibrates automatic controls; computes load requirements. *CEC:* Able to perform the duties required for CE1; prepares letters, instructions, and reports; administers safety program; assigns personnel; supervises and coordinates all tasks assigned to a unit; provides technical advice and assistance; implements cost control program. *CECS:* Able to perform the duties required for CEC; prepares local directives and instructions for attaining organizational objectives; establishes and implements a program to ensure maximum utilization of personnel and equipment; directs the operation and maintenance of all facilities and equipment used in the public works department; organizes, schedules, and evaluates training programs.

Recommendation, CE3

In the vocational certificate category, 3 semester hours in basic electricity and 3 in introduction to construction. In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electricity. Advanced standing in a construction electrician apprentice training program on the basis of employer or trade association performance examination (1/77).

Recommendation, CE2

In the vocational certificate category, 3 semester hours in intermediate electricity and 3 in introduction to construction. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 2 in blueprint reading, and 1 in electrical construction laboratory. Advanced standing in a construction electrician apprentice training program on the basis of employer or trade association performance examination (1/77).

Recommendation, CE1

In the vocational certificate category, 3 semester hours in intermediate electricity, 3 in advanced electricity, and 3 in introduction to construction. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 2 in electrical construction laboratory, 2 in electrical problems (troubleshooting), 2 in blueprint reading, 1 in records administration, and 1 in personnel supervision. Advanced standing in a construction electrician apprentice training program on the basis of employer or trade association performance examination (1/77).

Recommendation, CEC

In the vocational certificate category, 3 semester hours in intermediate electricity, 3 in advanced electricity, and 3 in introduction to construction. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 2 in electrical construction laboratory, 2 in electrical problems (troubleshooting), 2 in blueprint reading, 2 in shop management, 2 in personnel supervision, 1 in records administration, and 1 in safety management. In the upper-division baccalaureate category, 3 semester hours in human relations. Advanced standing in a construction electrician apprentice training program on the basis of employer or trade association performance examination (1/77).

Recommendation, CECS

In the vocational certificate category, 3 semester hours in intermediate electricity, 3 in advanced electricity, and 3 in introduction to construction. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 3 in personnel supervision, 2 in electrical construction laboratory, 2 in electrical problems (troubleshooting), 2 in blueprint reading, 2 in shop management, 2 in records administration, and 1 in safety management. In the upper-division baccalaureate category, 3 semester hours in human relations and 3 for a practicum in management. Advanced standing in a construction electrician apprentice training program on the basis of employer or trade association performance examination (1/77).

NER-CE-002

Construction Electrician
CE3
CE2
CE1
CEC
CECS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *CE3:* Construction Electrician, Third Class (E-4). *CE2:* Construction Electrician, Second Class (E-5). *CE1:* Construction Electrician, First Class (E-6). *CEC:* Chief Construction Electrician (E-7). *CECS:* Senior Chief Construction Electrician (E-8). *UTCM:* Master Chief Utilitiesman (E-9).

Description

Summary: Plans, supervises, and performs tasks required to install, operate, service, and overhaul electric generating and distribution systems, wire communication systems, and associated equipment. *CE3:* Erects and climbs poles; installs storage and dry cell batteries; installs electrical appliances and equipment; operates vehicles and performs prestart checks and operator maintenance; performs preventive maintenance and minor repairs on electrical power tools, appliances, and equipment and on interior wiring systems, power distribution systems, and tactical field telephone systems. *CE2:* Able to perform the duties required for CE3; prepares shop drawings and sketches; reads and works from construction drawings and specifications; prepares time cards and material requisitions; installs advanced-based type generators and distribution panels, public address equipment, electrical conduits, wiring systems, and automatic controls for boilers and air conditioning and refrigeration equipment; operates and performs prestart checks and operator maintenance on vehicles; maintains and repairs tactical field telephones, appliances and equipment, wiring systems, and automatic controls for boilers and air conditioning and refrigeration systems, distribution systems, and public address systems. *CE1:* Able to perform the duties required for CE2; prepares work progress and material usage reports; conducts personnel readiness program interviews; maintains standard forms used by the maintenance or utilities division of a public works activity; implements training for team or crew members; directs personnel in the installation and operation of advanced-based type generating equipment, security and air field lighting systems, and fire detection and alarm systems; organizes work assignments; prepares estimates from drawings and specifications; conducts inspections; troubleshoots systems; performs technical maintenance and repairs; calibrates automatic controls; computes load requirements. *CEC:* Able to perform the duties required for CE1; prepares letters, instructions, and reports; administers safety and pollution control program; assigns personnel; supervises and coordinates all tasks assigned to a unit; provides technical advice and assistance; implements cost control program; uses network analysis to manage construction projects. *CECS:* Able to perform the duties required for CEC; prepares local directives and instructions for attaining organizational objectives; establishes and implements a program to ensure maximum utilization of personnel and equipment; directs the operation and maintenance of all facilities and equipment used in the public works department; organizes, schedules, and evaluates training programs; provides technical assistance on assigned construction projects.

Recommendation, CE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 3 in electrical troubleshooting and maintenance, and 2 in blueprint reading (schematics) (3/91).

Recommendation, CE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 5 in electrical troubleshooting and maintenance, 3 in blueprint reading (schematics), 1 in personnel supervision, 3 in construction electricity, and 3 for field experience in electrical construction (3/91).

Recommendation, CE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic elec-

tricity, 6 in electrical troubleshooting and maintenance, 4 in blueprint reading (schematics), 2 in personnel supervision, 1 in safety and pollution control management, 2 in facilities management, 3 in construction electricity, and 5 for field experience in electrical construction (3/91).

Recommendation, CEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 6 in electrical troubleshooting and maintenance, 4 in blueprint reading (schematics), 3 in personnel supervision, 2 in safety and pollution control management, 3 in facilities management, 3 in construction electricity, 2 in records and information management, and 6 for field experience in electrical construction (3/91).

Recommendation, CECS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 6 in electrical troubleshooting and maintenance, 4 in blueprint reading (schematics), 3 in personnel supervision, 2 in safety and pollution control management, 3 in facilities management, 3 in construction electricity, 2 in records and information management, and 6 for field experience in electrical construction. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-CM-001

CONSTRUCTION MECHANIC
CM3
CM2
CM1
CMC
CMCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *CM3:* Construction Mechanic, Third Class (E-4). *CM2:* Construction Mechanic, Second Class (E-5). *CM1:* Construction Mechanic, First Class (E-6). *CMC:* Chief Construction Mechanic (E-7). *CMCS:* Senior Chief Construction Mechanic (E-8). *EQCM:* Master Chief Equipmentman (E-9).

Description

Summary: Maintains, repairs, and overhauls automotive, construction, and material-handling equipment; keeps equipment maintenance records; prepares requisitions and reports; trains subordinates in maintenance procedures and techniques. *CM3:* Works from shop drawings, specifications, and repair and parts manuals; performs preventive maintenance; operates equipment during test procedures; repairs braking systems; tests electrical systems and makes minor repairs. *CM2:* Able to perform the duties required for CM3; prepares time sheets, material distribution records, equipment historical files, and parts and material requisitions; performs engine diagnosis and corrects problems through subassembly repair or replacement; repairs and adjusts steering system; performs minor body repairs and painting; performs gas welding, cutting, and brazing; operates construction, automotive, and material-handling equipment during diagnosis and testing; rebuilds components. *CM1:* Able to perform the duties required for CM2; prepares work progress reports and provides material usage data; conducts personnel readiness capability program interviews; prepares vehicle and equipment inspection reports; implements training for crews and overhauls internal combustion engines; diagnoses engine malfunctions; tests, diagnoses, overhauls, and adjusts diesel engine fuel systems; diagnoses malfunctions and repairs power train units (except torque converter power shift and automatic transmission); troubleshoots hydraulic, air, and vacuum braking systems; supervises personnel repairing automotive, construction, and material-handling equipment; performs diagnosis and repair of standard and electronic ignition systems using test equipment; organizes work assignments for team and crew leaders; prepares equipment, manpower, and material estimates from drawings and specifications; uses principles and techniques of Critical Path Method scheduling; identifies fossil fuel and combustion polluting components and applies atmospheric pollution control measures. *CMC:* Able to perform the duties required for CM1; drafts letters, instructions, and notices; prepares reports; administers accident prevention program; coordinates the assignment of tasks to department and unit personnel; provides technical advice and assistance; implements maintenance and cost control program; organizes and controls the use of equipment and material. *CMCS:* Able to perform the duties required for CMC; organizes, schedules, and evaluates training programs; prepares directives and instructions for attaining organizational objectives; prepares correspondence; establishes and implements a program for interviewing and evaluating personnel; coordinates equipment assignment among various units according to priorities; directs transportation and equipment services; establishes maintenance and cost control program; coordinates and evaluates labor reporting, material and equipment usage, and maintenance data; prepares and submits related reports.

Recommendation, CM3

In the vocational certificate category, 9 semester hours in diesel, truck, or automotive mechanics. In the lower-division baccalaureate/associate degree category, 4 semester hours in automotive, diesel, or truck mechanics and 1 in care and use of tools (1/77).

Recommendation, CM2

In the vocational certificate category, 15 semester hours in diesel, truck, or automotive mechanics. In the lower-division baccalaureate/associate degree category, 6 semester hours in automotive, diesel, or truck mechanics, 3 in shop practices, and 1 in care and use of tools (1/77).

Recommendation, CM1

In the vocational certificate category, 18 semester hours in diesel, truck, or automotive mechanics. In the lower-division baccalaureate/associate degree category, 9 semester hours in diesel, truck, or automotive mechanics, 3 in shop practices, 2 in personnel supervision, 1 in records administration, and 1 in care and use of tools (1/77).

Recommendation, CMC

In the vocational certificate category, 18 semester hours in diesel, truck, or automotive mechanics. In the lower-division baccalaureate/associate degree category, 9 semester hours in diesel, truck, or automotive mechanics, 3 in shop practices, 3 in personnel supervision, 2 in records administration, and 1 in care and use of tools (1/77).

Recommendation, CMCS

In the vocational certificate category, 18 semester hours in diesel, truck, or automotive mechanics and 3 in leadership. In the lower-division baccalaureate/associate degree category, 9 semester hours in diesel, truck, or automotive mechanics, 3 in shop practices, 3 in personnel supervision, 3 in records administration, 3 in introduction to management, and 1 in care and use of tools. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in human relations (1/77).

NER-CM-002

CONSTRUCTION MECHANIC
CM3
CM2
CM1
CMC
CMCS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *CM3:* Construction Mechanic, Third Class (E-4). *CM2:* Construction Mechanic, Second Class (E-5). *CM1:* Construction Mechanic, First Class (E-6). *CMC:* Chief Construction Mechanic (E-7). *CMCS:* Senior Chief Construction Mechanic (E-8). *EQCM:* Master Chief Equipmentman (E-9).

Description

Summary: Maintains, repairs, and overhauls automotive, construction, and material-handling equipment; keeps equipment maintenance records; prepares requisitions and reports; trains subordinates in maintenance procedures and techniques. *CM3:* Works from shop drawings, specifications, and repair and parts manuals; performs preventive maintenance; operates equipment during test procedures; repairs braking systems; tests electrical systems and makes minor repairs. *CM2:* Able to perform the duties required for CM3; prepares time sheets, material distribution records, equipment historical files, and parts and material requisitions; performs engine diagnosis and corrects problems through subassembly repair or replacement; repairs and adjusts steering system; performs minor body repairs and painting; performs gas welding, cutting, and brazing; operates construction, automotive, and material-handling equipment during diagnosis and testing; rebuilds components. *CM1:* Able to perform the duties required for CM2; prepares work progress reports and provides material usage data; conducts personnel readiness capability program interviews; prepares vehicle and equipment inspection reports; implements training for crews and overhauls internal combustion engines; diagnoses engine malfunctions and repairs power train units (except torque converter power shift and automatic transmission); troubleshoots hydraulic, air, and vacuum braking systems; supervises personnel repairing automotive, construction, and material-handling equipment; performs diagnosis and repair of standard and electronic ignition systems using test equipment; organizes work assignments for team and crew leaders; prepares equipment, manpower, and material estimates from drawings and specifications; uses principles and techniques of Critical Path Method scheduling; identifies fossil fuel and combustion polluting components and applies atmospheric pollution control measures. *CMC:* Able to perform the duties required for CM1; drafts letters, instructions, and notices; prepares reports; administers accident prevention program; coordinates the assignment of tasks to department and unit personnel; provides technical advice and assistance; implements maintenance and cost control program; organizes and controls the use of equipment and material. *CMCS:* Able to perform the duties required for CMC; organizes, schedules, and evaluates training programs; prepares directives and instructions for attaining organizational objectives; prepares correspondence; establishes and implements a program for interviewing and evaluating personnel; coordinates equipment assignment among various units, according to priorities; directs transportation and equipment services; establishes maintenance and cost control program; coordinates and evaluates labor reporting, material and equipment usage, and maintenance data; prepares and submits related reports.

Recommendation, CM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive or truck brake systems and 3 in automotive electrical systems (3/91).

Recommendation, CM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive or truck brake systems, 3 in automotive electrical systems, 3 in engine diagnosis and repair, and 3 in shop practices (3/91).

Recommendation, CM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive or truck brake systems, 3 in automotive electrical systems, 3 in engine diagnosis and repair, 3 in engine performance (tune-up), 3 in shop practices, 2 in personnel supervision, and 2 in maintenance management (3/91).

Recommendation, CMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive or truck brake systems, 3 in automotive electrical systems, 3 in engine diagnosis and repair, 3 in engine performance (tune-up), 3 in power train repair, 3 in shop practices, 3 in personnel supervision, 2 in records and information management, and 3 in maintenance management (3/91).

Recommendation, CMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in automotive or truck brake systems, 3 in automotive electrical systems, 3 in engine diagnosis and repair, 3 in engine performance (tune-up), 3 in power train repair, 3 in shop practices, 3 in personnel supervision, 2 in records and information management, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (3/91).

NER-CN-001

CONSTRUCTIONMAN
CN

Exhibit Dates: 1/90–12/90.

Career Pattern

Constructionman (CN) is a general rate (Naval apprenticeship) for persons at pay grades E-1 (recruit), E-2 (Constructionman apprentice), and E-3 (Constructionman). At pay grade E-4 (petty officer, third class), the person may enter any one of the following ratings: Builder (BU), Construction Electrician (CE), Construction Mechanic (CM), Engineering Aid (EA), Equipment Operator (EO), Steelworker (SW), or Utilitiesman (UT).

Description

Is introduced to all phases of construction work, including construction equipment operation and equipment maintenance, surveying and drafting, site preparation and earthwork, concrete and masonry, steelwork, carpentry, painting, utilities, and tools; understands the mission of the various operating units of the naval construction force; reads simple sketches used in construction; has basic knowledge of map and compass techniques; knows hand signals for construction equipment operation; uses and maintains common measuring, cutting, line-clearing, manual excavating, and portable power tools; paints with brushes and rollers; applies safety requirements regarding construction equipment and tools, fuels, paints, and electricity; applies first aid procedures for controlling bleeding, preparing and applying improvised splints, administering artificial respiration, treating heat exhaustion and heat stroke, and transporting injured persons; knows symptoms of and immediate treatment for shock; can classify and administer first aid treatment for burns.

Recommendation

In the vocational certificate category, 3 semester hours in introduction to construction procedures. In the lower-division baccalaureate/associate degree category, 1 semester hour in map and compass reading and interpretation and 1 in first aid. NOTE: Credit for Constructionman (CN) should be granted only after pay grade E-3 has been achieved (1/77).

NER-CN-002

CONSTRUCTIONMAN
CN

Exhibit Dates: 1/91–Present.

Career Pattern

Constructionman (CN) is a general rate (Naval apprenticeship for persons at pay grades E-1 (recruit), E-2 (Constructionman apprentice), and E-3 (Constructionman)). At pay grade E-4 (petty officer, third class), the individual may enter any one of the following ratings: Builder (BU), Construction Electrician (CE), Construction Mechanic (CM), Engineering Aid (EA), Equipment Operator (EO), Steelworker (SW), or Utilitiesman (UT).

Description

May be introduced to all phases of construction work, including construction equipment operation and equipment maintenance, surveying and drafting, site preparation and earthwork, concrete and masonry, steelwork, carpentry, painting, utilities, and tools; understands the mission of the various operating units of the Naval construction force; reads simple sketches used in construction; has basic knowledge of map and compass techniques; knows hand signals for construction equipment operation; uses and maintains common measuring, cutting, line-clearing, manual excavating, and portable power tools; paints with brushes and rollers; applies safety requirements regarding construction equipment and tools, fuels, paints, and electricity.

Recommendation

Credit is not recommended due to the diverse on-the-job experiences of personnel in this rate (1/77).

NER-CTA-001

CRYPTOLOGIC TECHNICIAN, ADMINISTRATIVE
(Communications Technician, Administrative)
CTA3
CTA2
CTA1
CTAC
CTACS
CTACM

Exhibit Dates: 1/90–12/90.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTA3: Cryptologic Technician, Administrative, Third Class (E-4). CTA2: Cryptologic Technician, Administrative, Second Class (E-5). CTA1: Cryptologic Technician, Administrative, First Class (E-6). CTAC: Chief Cryptologic Technician, Administrative (E-7). CTACS: Senior Chief Cryptologic Technician, Administrative (E-8). CTACM: Master Chief Cryptologic Technician, Administrative (E-9).

Description

Summary: Performs general office duties in an administrative office. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTA3:* Types messages, correspondence, directives, and reports; operates office equipment; files correspondence and directives; types at 30 words per minute. *CTA2:* Able to perform the duties required for CTA3; types at 40 words per minute; drafts correspondence and messages; organizes and maintains files; estimates requirements and requisitions office supplies. *CTA1:* Able to perform the duties required for CTA2; types at 50 words per minute; requisitions, maintains, issues, and accounts for training and educational manuals and materials; advises personnel on educational and training matters. *CTAC:* Able to perform the duties required for CTA1; supervises the daily operation of an administration office; establishes work priorities and assigns work; ensures timely and accurate submission of reports; evaluates administrative reports and outgoing reports for adequacy and accuracy; interprets and analyzes manpower authorizations; coordinates preparation of manpower organization; coordinates submission of performance evaluations. *CTACS:* Able to perform the duties required for CTAC; manages the preparation, supervision, and evaluation of administrative functions; prepares recommended changes to administrative procedures; prepares local directives and instructions for attaining objectives; establishes and maintains a system for the control, updating, and maintenance of administrative files, instructions, and publications; interviews, evaluates, and assigns personnel; provides written evaluations of subordinates; prepares correspondence and ensures its adequacy; schedules local training programs. *CTACM:* Able to perform the duties required for CTACS; plans, organizes, implements, and controls administrative procedures that comply with policy statements; forecasts future requirements for personnel, equipment, and organization; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures.

Recommendation, CTA3

In the lower-division baccalaureate/associate degree category, 3 semester hours in office practices and procedures and 2 in typewriting (2/81).

Recommendation, CTA2

In the lower-division baccalaureate/associate degree category, 4 semester hours in office practices and procedures and 3 in typewriting (2/81).

Recommendation, CTA1

In the lower-division baccalaureate/associate degree category, 5 semester hours in office practices and procedures, 3 in typewriting, and 3 in written communication (2/81).

Recommendation, CTAC

In the lower-division baccalaureate/associate degree category, 5 semester hours in office practices and procedures, 3 in written communication, 3 in typewriting, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in introduction to management (2/81).

Recommendation, CTACS

In the lower-division baccalaureate/associate degree category, 5 semester hours in office practices and procedures, 3 in written communication, 3 in typewriting, 2 in personnel supervision, and 2 in administrative communication. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 2 in personnel management, and 3 for field experience in management (2/81).

Recommendation, CTACM

In the lower-division baccalaureate/associate degree category, 5 semester hours in office practices and procedures, 3 in written communication, 3 in typewriting, 2 in personnel supervision, 2 in administrative communication, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 in personnel management, 3 for field experience in management, and 2 in management problems (2/81).

NER-CTA-002

Cryptologic Technician, Administrative

CTA3
CTA2
CTA1
CTAC
CTACS
CTACM

Exhibit Dates: 1/91–1/96.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTA3: Cryptologic Technician, Administrative, Third Class (E-4). CTA2: Cryptologic Technician, Administrative, Second Class (E-5). CTA1: Cryptologic Technician, Administrative, Second Class (E-6). CTAC: Chief Cryptologic Technician, Administrative (E-7). CTACS: Senior Chief Cryptologic Technician, Administrative (E-8). CTACM: Master Chief Cryptologic Technician, Administrative (E-9).

Description

Summary: Performs general office duties in an administrative office with the use of personal computers and standard software packages. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTA3:* Types messages, correspondence, directives, and reports; operates office equipment; files correspondence and directives; types at 30 words per minute. *CTA2:* Able to perform the duties required for CTA3; types at 40 words per minute; drafts correspondence and messages; organizes and maintains files; estimates requirements; requisitions office supplies. *CTA1:* Able to perform the duties required for CTA2; types at 50 words per minute; requisitions, maintains, issues, and accounts for training and educational manuals and materials; advises personnel on educational and training matters. *CTAC:* Able to perform the duties required for CTA1; supervises the daily operation of an administration office; establishes work priorities and assigns work; ensures timely and accurate submission of reports; evaluates administrative reports and outgoing reports for adequacy and accuracy; interprets and analyzes manpower authorizations; coordinates preparation of manpower organization; coordinates submission of performance evaluations. *CTACS:* Able to perform the duties required for CTAC; manages the preparation, supervision, and evaluation of administrative functions; prepares recommended changes to administrative procedures; prepares local directives and instructions for attaining objectives; establishes and maintains a system for the control, updating, and maintenance of administrative files, instructions, and publications; interviews, evaluates, and assigns personnel; provides written evaluations of subordinates; prepares correspondence and ensures its adequacy; schedules local training programs. *CTACM:* Able to perform the duties required for CTACS; plans, organizes, implements, and controls administrative procedures that comply with policy statements; forecasts future requirements for personnel, equipment, and organization; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures.

Recommendation, CTA3

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 2 in keyboarding, 3 in business communication, 3 in clerical procedures, and 3 in records and information management (5/92).

Recommendation, CTA2

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 2 in keyboarding, 3 in business communication, 3 in clerical procedures, and 3 in records and information management (5/92).

Recommendation, CTA1

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 2 in keyboarding, 3 in business communication, 3 in clerical procedures, 3 in records and information management, and 2 in personnel supervision (5/92).

Recommendation, CTAC

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 2 in keyboarding, 3 in business communication, 3 in clerical procedures, 3 in records and information management, and 3 in personnel supervision (5/92).

Recommendation, CTACS

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 2 in keyboarding, 3 in business communication, 3 in clerical procedures, 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, CTACM

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 2 in keyboarding, 3 in business communication, 3 in clerical procedures, 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-CTA-003

Cryptologic Technician, Administrative

CTA3
CTA2
CTA1
CTAC
CTACS
CTACM

Exhibit Dates: 2/96–Present.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTA3: Cryptologic Technician, Administrative, Third Class (E-4). CTA2: Cryptologic Technician, Administrative, Second Class (E-5). CTA1: Cryptologic Technician, Administrative, Second Class (E-6). CTAC: Chief Cryptologic Technician, Administrative (E-7). CTACS: Senior Chief Cryptologic Technician, Administrative (E-8). CTACM: Master Chief Cryptologic Technician, Administrative (E-9).

Description

Summary: Performs general office duties in an administrative office with the use of personal computers and standard software packages. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTA3:* Types messages, correspondence, directives, and reports; operates office equipment; files correspondence and directives; types at 30 words per minute; performs computer software applications.

CTA2: Able to perform the duties required for CTA3; types at 40 words per minute; drafts correspondence and messages; organizes and maintains files; estimates requirements; requisitions office supplies. *CTA1:* Able to perform the duties required for CTA2; types at 50 words per minute; requisitions, maintains, issues, and accounts for training and educational manuals and materials; advises personnel on educational and training matters; supervises and evaluates personnel. *CTAC:* Able to perform the duties required for CTA1; supervises the daily operation of an administration office; establishes work priorities and assigns work; ensures timely and accurate submission of reports; evaluates administrative reports and outgoing reports for adequacy and accuracy; interprets and analyzes manpower authorizations; coordinates preparation of manpower organization; coordinates submission of performance evaluations. *CTACS:* Able to perform the duties required for CTAC; manages the preparation, supervision, and evaluation of administrative functions; prepares recommended changes to administrative procedures; prepares local directives and instructions for attaining objectives; establishes and maintains a system for the control, updating, and maintenance of administrative files, instructions, and publications; interviews, evaluates, and assigns personnel; provides written evaluations of subordinates; prepares correspondence and ensures its adequacy; schedules local training programs. *CTACM:* Able to perform the duties required for CTACS; plans, organizes, implements, and controls administrative procedures that comply with policy statements; forecasts future requirements for personnel, equipment, and organization; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures.

Recommendation, CTA3

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 3 in clerical procedures, 3 in records and information management, 3 in computer applications, and 2 in security operations (2/96).

Recommendation, CTA2

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 3 in technical writing, 3 in clerical procedures, 3 in records and information management, 3 in computer applications, and 2 in security operations (2/96).

Recommendation, CTA1

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 3 in technical writing, 3 in clerical procedures, 3 in records and information management, 3 in personnel supervision, 3 in computer applications, and 2 in security operations (2/96).

Recommendation, CTAC

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 3 in technical writing, 3 in clerical procedures, 3 in records and information management, 3 in personnel supervision, 3 in computer applications, and 2 in security operations. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/96).

Recommendation, CTACS

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 3 in technical writing, 3 in clerical procedures, 3 in records and information management, 3 in personnel supervision, 2 in security operations, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (2/96).

Recommendation, CTACM

In the lower-division baccalaureate/associate degree category, 3 semester hours in office procedures, 3 in technical writing, 3 in clerical procedures, 3 in records and information management, 2 in security operations, 3 in computer applications, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in presentation techniques, 3 in organizational management, and 6 for field experience in management (2/96).

NER-CTI-001

CRYPTOLOGIC TECHNICIAN, INTERPRETIVE
(Communications Technician, Interpretive)
CTI3
CTI2
CTI1
CTIC
CTICS
CTICM

Exhibit Dates: 1/90–12/90.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTI3: Cryptologic Technician, Interpretive, Third Class (E-4). CTI2: Cryptologic Technician, Interpretive, Second Class (E-5). CTI1: Cryptologic Technician, Interpretive, First Class (E-6). CTIC: Chief Cryptologic Technician, Interpretive (E-7). CTICS: Senior Chief Cryptologic Technician, Interpretive (E-8). CTICM: Master Chief Cryptologic Technician, Interpretive (E-9).

Description

Summary: Translates routine intercepted communications. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTI3:* Possesses advanced abilities in at least one foreign language; translates routine intercepted communication; maintains logs, records, files, and publications; operates recording equipment; types at 25 words per minute. *CTI2:* Able to perform the duties required for CTI3; identifies categories of significant intelligence alerts; plots bearings of intercepted signals; recognizes and reports unusual communications activity; prepares routine technical reports; identifies foreign languages likely to be encountered in the local signal environment. *CTI1:* Able to perform the duties required for CTI2; assists in the planning of support operations for designated missions; prepares technical reports; uses computers for word analysis of intercepted communications; writes personnel evaluation reports. *CTIC:* Able to perform the duties required for CTI1; supervises division-level foreign language processing activities; establishes and maintains a quality control system for processing and reporting functions; prepares plans to ensure coverage of intercepted messages; identifies procedures for handling sensitive and critical messages; prepares reports of activities. *CTICS:* Able to perform the duties required for CTIC; prepares, conducts, and evaluates foreign language support activities; provides advice on utilization, reliability, capabilities, and operations; prepares directives and instructions for attaining unit objectives; prepares correspondence; interviews, evaluates, and assigns personnel; writes evaluations and reports; establishes and maintains a system for control, correction, and updating of publications file, instructions, and functional files; administers classified material control system and records disposal program; organizes and schedules local training programs. *CTICM:* Able to perform the duties required for CTICS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for personnel, material, and equipment; establishes goals, objectives, and priorities in own area of responsibility; reviews and evaluates personnel including written evaluations; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures.

Recommendation, CTI3

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 1 in written communication skills, and 1 in oral communication skills. Add credit for the specific foreign language in accordance with the recommendation in the DoD volume of the Guide to the Evaluation of Educational Experiences in the Armed Services (2/81).

Recommendation, CTI2

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 2 in written communication skills, and 2 in oral communication skills. Add credit for the specific foreign language in accordance with the recommendation in the DoD volume of the Guide to the Evaluation of Educational Experiences in the Armed Services (2/81).

Recommendation, CTI1

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in written communication skills, and 3 in oral communication skills. Add credit for the specific foreign language in accordance with the recommendation in the DoD volume of the Guide to the Evaluation of Educational Experiences in the Armed Services (2/81).

Recommendation, CTIC

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in written communication skills, 3 in oral communication skills, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in introduction to management. Add credit for the specific foreign language in accordance with the recommendation in the DoD volume of the Guide to the Evaluation of Educational Experiences in the Armed Services (2/81).

Recommendation, CTICS

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in written communication skills, 3 in oral communication skills, 2 in personnel supervision, and 2 in administrative communication. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 for field experience in management and 2 in personnel management. Add credit for the specific foreign language in accordance with the recommendation in the DoD volume of the Guide to the Evaluation of Educational Experiences in the Armed Services (2/81).

Recommendation, CTICM

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in written communication skills, 3 in oral communication skills, 2 in personnel supervision, 2 in administrative communication, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 for field experience in management, 2 in management problems, and 3 in personnel management. Add credit for the specific foreign language in accordance with the recommendation in the DoD volume of the Guide to the Evaluation of Educational Experiences in the Armed Services (2/81).

NER-CTI-002

Cryptologic Technician, Interpretive

CTI3
CTI2
CTI1
CTIC
CTICS
CTICM

Exhibit Dates: 1/91–Present.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTI3: Cryptologic Technician, Interpretive, Third Class (E-4). CTI2: Cryptologic Technician, Interpretive, Second Class (E-5). CTI1: Cryptologic Technician, Interpretive, First Class (E-6). CTIC: Chief Cryptologic Technician, Interpretive (E-7). CTICS: Senior Chief Cryptologic Technician, Interpretive (E-8). CTICM: Master Chief Cryptologic Technician, Interpretive (E-9).

Description

Summary: Translates routine foreign language intercepted communications. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTI3:* Possesses advanced abilities in at least one foreign language; translates routine intercepted communications; maintains logs, records, files, and publications; operates recording equipment. *CTI2:* Able to perform the duties required for CTI3; identifies categories of significant intelligence alerts; plots bearings of intercepted signals; recognizes and reports unusual communication activity; prepares routine technical reports; identifies foreign languages likely to be encountered in the local signal environment. *CTI1:* Able to perform the duties required for CTI2; assists in the planning of support operations for designated missions; prepares technical reports; uses computers for word analysis of intercepted communications; writes personnel evaluation reports. *CTIC:* Supervises division-level foreign language processing activities; establishes and maintains a quality control system for processing and reporting functions; prepares plans to ensure coverage of intercepted messages; identifies procedures for handling sensitive and critical messages; prepares reports of activities. *CTICS:* Prepares, conducts, and evaluates foreign language support activities; provides advice on utilization, reliability, capabilities, and operations; prepares directives and instructions for attaining unit objectives; prepares correspondence; interviews, evaluates, and assigns personnel; writes evaluations of reports; establishes and maintains a system for control, correction, and updating of publications files, instruction, and functional files; administers classified material control system and records disposal program; organizes and schedules local training programs. *CTICM:* Plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for personnel, material, and equipment; establishes goals, objectives, and priorities in own area of responsibility; reviews and evaluates personnel including written evaluations; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures.

Recommendation, CTI3

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 1 in computer systems and organization, and 3 in records and information management (5/92).

Recommendation, CTI2

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, and 3 in records and information management (5/92).

Recommendation, CTI1

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 2 in personnel supervision (5/92).

Recommendation, CTIC

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 3 in personnel supervision (5/92).

Recommendation, CTICS

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, CTICM

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-CTM-001

Cryptologic Technician, Maintenance
(Communications Technician, Maintenance)

CTM3
CTM2
CTM1
CTMC
CTMCS
CTMCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTM3: Cryptologic Technician, Maintenance, Third Class (E-4). CTM2: Cryptologic Technician, Maintenance, Second Class (E-5). CTM1: Cryptologic Technician, Maintenance, First Class (E-6). CTMC: Chief Cryptologic Technician, Maintenance (E-7). CTMCS: Senior Chief Cryptologic Technician, Maintenance (E-8). CTMCM: Master Chief Cryptologic Technician, Maintenance (E-9).

Description

Summary: Repairs and performs maintenance on electronic systems. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTM3:* Repairs analog and digital electronic systems; reads schematic diagrams and identifies physical components; applies theory of operation and function of power supplies, amplifiers, oscillators, and filters; uses meters, oscilloscopes, and signal generators to troubleshoot systems; knows the relationships between current, voltage, and power in AC and DC circuits containing resistors, capacitors, and inductors; uses Boolean algebra truth tables to evaluate digital logic circuits; uses and maintains hand and power tools. *CTM2:* Able to perform the duties required for CTM3; performs maintenance on computers; applies theory of operation of digital computers, including control units, memory, and input/output; applies techniques of analog-digital and digital-analog conversion; prepares maintenance schedules. *CTM1:* Able to perform the duties required for CTM2; aligns, adjusts, and calibrates electronic equipment; troubleshoots, diagnoses, and repairs complex malfunctions. *CTMC:* Able to perform the duties required for CTM1; provides maintenance support services; evaluates operational test results against engineering design standards on electronic systems; supervises and evaluates subordinates; prepares written evaluation reports; establishes schedules of calibration, alignment, and preventive maintenance; allocates and assigns personnel; manages safety program, determines safety of work areas, and corrects discrepancies; provides technical and supervisory liaison between assigned work centers. *CTMCS:* Able to perform the duties required for CTMC; prepares technical reports and evaluations on operational performance on equipment installed at assigned location; evaluates test and performance results against design standards; prepares directives for attaining unit objectives; evaluates and assigns personnel; prepares and implements local safety and security directives; administers long-range maintenance program; supervises and evaluates subordinates. *CTMCM:* Able to perform the duties required for CTMCS; manages personnel and resources; plans, organizes, implements, and controls activities in maintenance of electronics equipment; coordinates overall maintenance effort with other departments; establishes goals, objectives, and priorities in own areas of responsibility; forecasts future requirements and initiates action to satisfy objectives and requirements; evaluates subordinate supervisors and other personnel; develops operating budget and monitors expenditures.

Recommendation, CTM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory electronics, 3 in circuit analysis, 2 in solid state circuitry, 3 in troubleshooting techniques, and 5 in digital electronics (2/81).

Recommendation, CTM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory electronics, 3 in circuit analysis, 3 in solid state circuitry, 5 in troubleshooting techniques, and 6 in digital electronics (2/81).

Recommendation, CTM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory electronics, 3 in circuit analysis, 4 in solid state circuitry, 6 in troubleshooting techniques, and 7 in digital electronics (2/81).

Recommendation, CTMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory electronics, 3 in circuit analysis, 4 in solid state circuitry, 6 in troubleshooting techniques, 7 in digital electronics, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in introduction to management (2/81).

Recommendation, CTMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory electronics, 3 in circuit analysis, 4 in solid state circuitry, 6 in troubleshooting techniques, 7 in digital electronics, 2 in personnel supervision, and 2 in administrative communication. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 for field experience in management, and 2 in personnel management (2/81).

Recommendation, CTMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in introductory electronics, 3 in circuit analysis, 4 in solid state circuitry, 6 in troubleshooting techniques, 7 in digital electronics, 2 in personnel supervision, 2 in administrative communication, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 for field experience in management, 2 in management problems, and 3 in personnel management (2/81).

NER-CTM-002

CRYPTOLOGIC TECHNICIAN, MAINTENANCE
CTM3
CTM2
CTM1
CTMC
CTMCS
CTMCM

Exhibit Dates: 1/91–Present.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTM3: Cryptologic Technician, Maintenance, Third Class (E-4). CTM2: Cryptologic Technician, Maintenance, Second Class (E-5). CTM1: Cryptologic Technician, Maintenance, First Class (E-6). CTMC: Chief Cryptologic Technician, Maintenance (E-7). CTMCS: Senior Chief Cryptologic Technician, Maintenance (E-8). CTMCM: Master Chief Cryptologic Technician, Maintenance (E-9).

Description

Summary: Repairs and performs maintenance on electronic systems. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTM3:* Repairs analog and digital electronic systems; reads schematic diagrams and identifies physical components; applies theory of operation and function of power supplies, amplifiers, oscillators, and filters; uses meters, oscilloscopes, and signal generators to troubleshoot systems; knows the relationships between current, voltage, and power in AC and DC circuits containing resistors, capacitors, and inductors; uses Boolean algebra truth tables to evaluate digital logic circuits; uses and maintains hand and power tools. *CTM2:* Able to perform the duties required for CTM3; performs maintenance on computers; applies theory of operation of digital computers including control units, memory, and input/output; knows techniques of analog-digital and digital-analog conversion; prepares maintenance schedules. *CTM1:* Able to perform the duties required for CTM2; aligns, adjusts, and calibrates electronic equipment; troubleshoots, diagnoses, and repairs complex malfunctions. *CTMC:* Able to perform the duties required for CTM1; provides maintenance support services; evaluates operational test results against engineering design standards on electronic systems; supervises and evaluates subordinates; prepares written evaluation reports; establishes schedules for calibration, alignment, and preventive maintenance; allocates and assigns personnel; manages safety program, determines safety of work areas, and corrects discrepancies; provides technical and supervisory liaison between assigned work centers. *CTMCS:* Able to perform the duties required for CTMC; prepares technical reports and evaluations on operational performance of equipment installed at assigned location; evaluates test and performance results against design standards; prepares directives for attaining unit objectives; evaluates and assigns personnel; prepares and implements local safety and security directives; administers long-range maintenance program; supervises and evaluates subordinates. *CTMCM:* Able to perform the duties required for CTMCS; manages personnel and resources; plans, organizes, implements, and controls activities in maintenance of electronic equipment; coordinates overall maintenance effort with other departments; establishes goals, objectives, and priorities in own areas of responsibility; forecasts future requirements and initiates actions to satisfy objectives and requirements; evaluates subordinate supervisors and other personnel; develops operating budget and monitors expenditures.

Recommendation, CTM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 1 in digital principles, 1 in solid state electronics, 2 in computer systems and organization, 2 in communications (electronic), 2 in technical mathematics, and 3 in electronic systems troubleshooting and maintenance (5/92).

Recommendation, CTM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 3 in computer systems and organization, 3 in communications (electronic), 2 in technical mathematics, and 3 in electronic systems troubleshooting and maintenance (5/92).

Recommendation, CTM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 3 in digital principles, 3 in solid state electronics, 4 in computer systems and organization, 4 in communications (electronic), 2 in technical mathematics, 3 in electronic systems troubleshooting and maintenance, 2 in personnel supervision, 2 in maintenance management, and 2 in records and information management (5/92).

Recommendation, CTMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 3 in digital principles, 3 in solid state electronics, 4 in computer systems and organization, 4 in communications (electronic), 2 in technical mathematics, 3 in electronic systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management (5/92).

Recommendation, CTMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 3 in digital principles, 3 in solid state electronics, 4 in computer systems and organization, 4 in communications (electronic), 2 in technical mathematics, 3 in electronic systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, CTMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 3 in digital principles, 3 in solid state electronics, 4 in computer systems and organization, 4 in communications (electronic), 2 in technical mathematics, 3 in electronic systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-CTO-001

CRYPTOLOGIC TECHNICIAN, COMMUNICATIONS
(Communications Technician, Communications)
CTO3
CTO2
CTO1
CTOC
CTOCS
CTOCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTO3: Cryptologic Technician, Communications, Third Class (E-4). CTO2: Cryptologic Technician, Communications, Second Class (E-5). CTO1: Cryptologic Technician, Communications, First Class (E-6). CTOC: Chief Cryptologic Technician, Communications (E-7). CTOCS: Senior Chief Cryptologic Technician, Communications (E-8). CTOCM: Master Chief Cryptologic Technician, Communications (E-9).

Description

Summary: Operates on-line cryptographic devices and teletype equipment. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTO3:* Sends and receives communications by automated communications processing systems; types at 35 words per minute; maintains logs, records, files, and publications; inspects, cleans, and makes operational adjustments to keyboard equipment. *CTO2:* Able to perform the duties required for CTO3; requisitions supplies and maintains stock levels; prepares messages. *CTO1:* Able to perform the duties required for CTO2; types at 40 words per minute; prepares operations and technical reports; plans and conducts operations; identifies the purpose of the various special security communications systems and networks operated by naval security. *CTOC:* Able to perform the duties required for CTO1; supervises and maintains communications center; supervises and evaluates subordinates; prepares written evaluation reports; prepares requests for activation or deactivation of communications networks; allocates and tasks manpower assets to complete work load; manages safety and maintenance programs in work area. *CTOCS:* Able to perform the duties required for CTOC; prepares, supervises, and evaluates cryptographic operations; prepares changes to security regulations; advises on utilization, capabilities, reliability, and operations in own area of responsibility; establishes and implements program for interviewing, evaluating, and assigning personnel; supervises classified material control systems; administers and evaluates security requirements; organizes and schedules local training programs. *CTOCM:* Able to perform the duties required for CTOCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures; may manage three or four Navy shops or shop crews.

Recommendation, CTO3

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting (2/81).

Recommendation, CTO2

In the lower-division baccalaureate/associate degree category, 3 semester hours in typewriting (2/81).

Recommendation, CTO1

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting and 2 in introduction to computer operations (2/81).

Recommendation, CTOC

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 2 in introduction to computer operations, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in introduction to management (2/81).

Recommendation, CTOCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 2 in introduction to computer operations, 2 in personnel supervision, and 2 in administrative communication. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 2 in personnel management, and 3 for field experience in management (2/81).

Recommendation, CTOCM

In the lower-division baccalaureate/associate degree category, 3 semester hour hours in typewriting, 2 in introduction to computer operations, 2 in personnel supervision, 2 in administrative communication, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 in personnel management, 3 for field experience in management, and 2 in management problems (2/81).

NER-CTO-002

CRYPTOLOGIC TECHNICIAN, COMMUNICATIONS
CTO3
CTO2
CTO1
CTOC
CTOCS
CTOCM

Exhibit Dates: 1/91–1/96.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTO3: Cryptologic Technician, Communications, Third Class (E-4). CTO2: Cryptologic Technician, Communications, Second Class (E-5). CTO1: Cryptologic Technician, Communications, First Class (E-6). CTOC: Chief Cryptologic Technician, Communications (E-7). CTOCS: Senior Chief Cryptologic Technician, Communications (E-8). CTOCM: Master Chief Cryptologic Technician, Communications (E-9).

Description

Summary: Operates on-line cryptographic devices and teletype equipment. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTO3:* Sends and receives communications processing systems; maintains logs, records, files, and publications; inspects, cleans, and makes operational adjustments to keyboard equipment. *CTO2:* Able to perform the duties required for CTO3; requisitions supplies and maintains stock levels; prepares messages. *CTO1:* Able to perform the duties required for CTO2; prepares operations and technical reports; plans and conducts operations; identifies the purpose of the various special security communications systems and networks operated by naval security. *CTOC:* Able to perform the duties required for CTO1; supervises and maintains communications center; supervises and evaluates subordinates; prepares written evaluation reports; prepares requests for activation or deactivation of communications networks; allocates and tasks manpower assets to complete work load; manages safety and maintenance programs in work area. *CTOCS:* Able to perform the duties required for CTOC; prepares, supervises, and evaluates cryptographic operations; prepares changes to security regulations; advises on utilization, capabilities, reliability, and operations in own area of responsibility; establishes and implements program for interviewing, evaluating, and assigning personnel; supervises classified material control systems; administers and evaluates security requirements; organizes and schedules local training programs. *CTOCM:* Able to perform the duties required for CTOCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures; may manage three or four Navy shops or shop crews.

Recommendation, CTO3

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 1 in computer systems and organization, and 3 in records and information management (5/92).

Recommendation, CTO2

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, and 3 in records and information management (5/92).

Recommendation, CTO1

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 2 in personnel supervision (5/92).

Recommendation, CTOC

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 3 in personnel supervision (5/92).

Recommendation, CTOCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, CTOCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in computer systems and organization, 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-CTO-003

Cryptologic Technician, Communications
CTO3
CTO2
CTO1
CTOC
CTOCS
CTOCM

Exhibit Dates: 2/96–Present.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTO3: Cryptologic Technician, Communications, Third Class (E-4). CTO2: Cryptologic Technician, Communications, Second Class (E-5). CTO1: Cryptologic Technician, Communications, First Class (E-6). CTOC: Chief Cryptologic Technician, Communications (E-7). CTOCS: Senior Chief Cryptologic Technician, Communications (E-8). CTOCM: Master Chief Cryptologic Technician, Communications (E-9).

Description

Summary: Operates on-line cryptographic devices and teletype equipment. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTO3:* Sends and receives communications processing systems; maintains logs, records, files, and publications; inspects, cleans, and makes operational adjustments to keyboard equipment; performs computer software applications. *CTO2:* Able to perform the duties required for CTO3; requisitions supplies and maintains stock levels; prepares messages. *CTO1:* Able to perform the duties required for CTO2; prepares operations and technical reports; plans and conducts operations; identifies the purpose of the various special security communications systems and networks operated by naval security; supervises and evaluates subordinates. *CTOC:* Able to perform the duties required for CTO1; supervises and maintains communications center; supervises and evaluates subordinates; prepares written evaluation reports; prepares requests for activation or deactivation of communications networks; allocates and tasks manpower assets to complete work load; manages safety and maintenance programs in work area. *CTOCS:* Able to perform the duties required for CTOC; prepares, supervises, and evaluates cryptographic operations; prepares changes to security regulations; advises on utilization, capabilities, reliability, and operations in own area of responsibility; establishes and implements program for interviewing, evaluating, and assigning personnel; supervises classified material control systems; administers and evaluates security requirements; organizes and schedules local training programs. *CTOCM:* Able to perform the duties required for CTOCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures; may manage three or four shops or shop crews.

Recommendation, CTO3

In the lower-division baccalaureate/associate degree category, 1 semester hour in computer systems and organization, 3 in records and information management, and 3 in computer applications (2/96).

Recommendation, CTO2

In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization, 3 in records and information management, and 3 in computer applications (2/96).

Recommendation, CTO1

In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization, 3 in records and information management, 3 in personnel supervision, 3 in computer applications, 3 in technical writing, and 2 in security operations (2/96).

Recommendation, CTOC

In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization, 3 in records and information management, 3 in personnel supervision, 3 in office administration, 3 in technical writing, 3 in computer applications, and 2 in security operations (2/96).

Recommendation, CTOCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization, 3 in records and information management, 3 in personnel supervision, 3 in technical writing, 3 in computer applications, and 2 in security operations. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (2/96).

Recommendation, CTOCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in computer systems and organization, 3 in records and information management, 3 in personnel supervision, 3 in computer applications, 3 in technical writing, and 2 in security operations. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in organizational management, and 3 in presentation techniques (2/96).

NER-CTR-001

Cryptologic Technician, Collection
(Communications Technician, Collection)
CTR3
CTR2
CTR1
CTRC
CTRCS
CTRCM

Exhibit Dates: 1/90–12/91.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTR3: Cryptologic Technician, Collection, Third Class (E-4). CTR2: Cryptologic Technician, Collection, Second Class (E-5). CTR1: Cryptologic Technician, Collection, First Class (E-6). CTRC: Chief Cryptologic Technician, Collection (E-7). CTRCS: Senior Chief Cryptologic Technician, Collection (E-8). CTRCM: Master Chief Cryptologic Technician, Collection (E-9).

Description

Summary: Operates equipment that receives and tape records radio waves. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTR3:* Operates receiving and recording equipment; identifies call signs and encrypted call signs; types messages received; knows operating and procedure signals; identifies natural and man made radio interference; recognizes and reports unusual radio wave activity; handles magnetic tapes and makes recordings; maintains files, records, logs, and publications. *CTR2:* Able to perform the duties required for CTR3; is familiar with various systems for direction finding; loads and operates data processing computers. *CTR1:* Able to perform the duties required for CTR2; designs plans for intercept coverage; has knowledge of the geographical, political, and economic characteristics of target area; drafts status reports. *CTRC:* Able to perform the duties required for CTR1; supervises the preparation and conduct of support operations in the area of information collection; prepares plan for signal security; supervises and evaluates subordinates; prepares written evaluation reports; prepares reports of significant activities; drafts security reports and other reports as required; identifies communications circuits required for specific geographic areas. *CTRCS:* Able to perform the duties required for CTRC; manages the preparation and evaluation of support operations relating to information collection; prepares recommended changes for submission in area of responsibility; advises on utilization, capabilities, reliability, and operations; establishes and implements a program for interviewing, evaluating, and assigning personnel; prepares personnel utilization report; establishes and maintains a system for the control, maintenance, and updating of publications, instructions, and functional files; administers records disposal program; prepares correspondence, local directives, and instructions in the conduct of operations; organizes and schedules local training programs; prepares rough draft budget estimates in area of operations. *CTRCM:* Able to perform the duties required for CTRCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel including written evaluations; performs analyses of organization tools, manpower, and work load; develops operating budget and monitors expenditures.

Recommendation, CTR3

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting (2/81).

Recommendation, CTR2

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting and 2 in introduction to computer operations (2/81).

Recommendation, CTR1

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting and 2 in introduction to computer operations (2/81).

Recommendation, CTRC

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 2 in introduction to computer operations, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in introduction to management (2/81).

Recommendation, CTRCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 2 in introduction to computer operations, 2 in computer operations, 2 in personnel supervision, and 2 in administrative communication. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 2 in personnel management, and 3 for field experience in management (2/81).

Recommendation, CTRCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 2 in introduction to computer operations, 2 in computer operations, 2 in personnel supervision, 2 in administrative communication, and 2 in human relations. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 2 in management problems, 3 for field experience in management, and 3 in personnel management (2/81).

NER-CTR-002

CRYPTOLOGIC TECHNICIAN, COLLECTION

CTR3
CTR2
CTR1
CTRC
CTRCS
CTRCM

Exhibit Dates: 1/92–1/96.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTR3: Cryptologic Technician, Collection, Third Class (E-4). CTR2: Cryptologic Technician, Collection, Second Class (E-5). CTR1: Cryptologic Technician, Collection, First Class (E-6). CTRC: Chief Cryptologic Technician, Collection (E-7). CTRCS: Senior Chief Cryptologic Technician, Collection (E-8). CTRCM: Master Chief Cryptologic Technician, Collection (E-9).

Description

Summary: Operates equipment that receives, records, and analyzes radio waves. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTR3:* Operates receiving and recording equipment; identifies call signs and encrypted call signs; types messages received; knows operating and procedure signals; identifies natural and man made radio interference; recognizes and reports unusual radio wave activity; handles magnetic tapes and makes recordings; maintains files, records, logs, and publications. *CTR2:* Able to perform the duties required for CTR3; is familiar with various systems for direction finding; loads and operates data processing computers. *CTR1:* Able to perform the duties required for CTR2; designs plans for intercept coverage; has knowledge of the geographical, political, and economic characteristics of target area; drafts status reports. *CTRC:* Able to perform the duties required for CTR1; supervises the preparation and conduct of support operations in the area of information collection; prepares plans for signal security; supervises and evaluates subordinates; prepares written evaluation reports; prepares reports of significant activities; drafts security reports and other reports as required; identifies communications circuits required for specific geographic areas. *CTRCS:* Able to perform the duties required for CTRC; manages the preparation and evaluation of support operations relating to information collection; prepares recommended changes for submission in area of responsibility; advises on utilization, capabilities, reliability, and operations; establishes and implements a program for interviewing, evaluating, and assigning personnel; prepares personnel utilization report; establishes and maintains a system for the control, maintenance, and updating of publications, instructions, and functional files; administers records disposal program; prepares correspondence, local directives, and instructions in the conduct of operations; organizes and schedules local training programs; prepares rough draft budget estimates in area of operations. *CTRCM:* Able to perform the duties required for CTRCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel including written evaluations; performs analyses of organization tools, manpower, and work load; develops operating budget and monitors expenditures.

Recommendation, CTR3

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 1 in technical mathematics, 1 in computer systems and organization, 1 in communications (electronics), and 3 in records and information management (5/92).

Recommendation, CTR2

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), and 3 in records and information management (5/92).

Recommendation, CTR1

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 2 in personnel supervision (5/92).

Recommendation, CTRC

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 3 in personnel supervision (5/92).

Recommendation, CTRCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, CTRCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-CTR-003

CRYPTOLOGIC TECHNICIAN, COLLECTIONS

CTR3
CTR2
CTR1
CTRC
CTRCS
CTRCM

Exhibit Dates: 2/96–Present.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTR3: Cryptologic Technician, Collection, Third Class (E-4). CTR2: Cryptologic Technician, Collection, Second Class (E-5). CTR1: Cryptologic Technician, Collection, First Class (E-6). CTRC: Chief Cryptologic Technician, Collection (E-7). CTRCS: Senior Chief Cryptologic Technician, Collection (E-8). CTRCM: Master Chief Cryptologic Technician, Collection (E-9).

Description

Summary: Operates equipment that receives, records, and analyzes radio waves. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTR3:* Operates receiving and recording equipment; identifies call signs and encrypted call signs; types messages received; knows operating and procedure signals; identifies natural and man made radio interference; recognizes and reports unusual radio wave activity; handles magnetic tapes and makes recordings; maintains files, records, logs, and publications. *CTR2:* Able to perform the duties required for CTR3; is familiar with various systems for direction finding; loads and operates data processing computers. *CTR1:* Able to perform the duties required for CTR2; designs plans for intercept coverage; has knowledge of the geographical, political, and economic characteristics of target area; drafts status reports. *CTRC:* Able to perform the duties required for CTR1; supervises the preparation and conduct of support operations in the area of information collection; prepares plans for signal security; supervises and evaluates subordinates; prepares written evaluation reports; prepares reports of significant activities; drafts security reports and other reports as required; identifies communications circuits required for specific geographic areas. *CTRCS:* Able to perform the duties required for CTRC; manages the preparation and evaluation of support operations relating to information collection; prepares recommended changes for submission in area of responsibility; advises on utilization, capabilities, reliability, and operations; establishes and implements a program for interviewing, evaluating, and assigning personnel; prepares personnel utilization report; establishes and maintains a system for the control, maintenance, and updating of publications, instructions, and functional files; administers records disposal program; prepares correspondence, local directives, and instructions in the conduct of operations; organizes and schedules local training programs; prepares rough draft budget estimates in area of operations. *CTRCM:* Able to perform the duties required for CTRCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel including written evaluations; performs analyses of organization tools, manpower, and work load; develops operating budget and monitors expenditures.

Recommendation, CTR3

In the lower-division baccalaureate/associate degree category, 1 semester hour in technical mathematics, 1 in computer systems and organization, 1 in communications (electronics), 3 in records and information management, 2 in security operations, and 3 in computer applications (2/96).

Recommendation, CTR2

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, 2 in security operations, and 3 in computer applications (2/96).

Recommendation, CTR1

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, 3 in personnel supervision, 3 in technical writing, 2 in security operations, and 3 in computer applications (2/96).

Recommendation, CTRC

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, 3 in personnel supervision, 3 in computer applications, 3 in technical writing, and 2 in security operations. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/96).

Recommendation, CTRCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, 3 in personnel supervision, 3 in computer applications, 2 in security operations, and 3 in technical writing. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (2/96).

Recommendation, CTRCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical mathematics, 2 in communications (electronics), 3 in records and information management, 3 in personnel supervision, 3 in computer applications, 3 in technical writing, and 2 in security operations. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in organizational management, and 3 in presentation techniques (2/96).

NER-CTT-001

CRYPTOLOGIC TECHNICIAN, TECHNICAL
(Communications Technician, Technical)
CTT3
CTT2
CTT1
CTTC
CTTCS
CTTCM

Exhibit Dates: 1/90–12/91.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTT3: Cryptologic Technician, Technical, Third Class (E-4). CTT2: Cryptologic Technician, Technical, Second Class (E-5). CTT1: Cryptologic Technician, Technical, First Class (E-6). CTTC: Chief Cryptologic Technician, Technical (E-7). CTTCS: Senior Cryptologic Technician, Technical (E-8). CTTCM: Master Chief Cryptologic Technician, Technical (E-9).

Description

Summary: Operates a computer system and monitors operational functions. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *CTT3:* Able to identify and classify the general characteristics of electromagnetic energy, interference, and common emitters; operates a computer system; types at 20 words per minute; inspects, cleans, and makes necessary adjustments to keyboard equipment; performs minor repairs; maintains logs, records, files, and publications. *CTT2:* Able to perform the duties required for CTT3; prepares routine technical reports; uses analysis equipment, including signal generators, graphic recorders, and spectrum analyzers. *CTT1:* Able to perform the duties required for CTT2; identifies and analyzes complex and sophisticated radio signals; performs system analysis to ensure effective data flow; prepares technical reports. *CTTC:* Able to perform the duties required for CTT1; supervises and maintains communications center; supervises and evaluates subordinates; prepares written evaluation reports; prepares requests for activation or deactivation of communications networks; allocates and tasks manpower assets to complete work load; manages safety program and maintenance program in work area. *CTTCS:* Able to perform the duties required for CTTC; prepares, supervises, and evaluates cryptographic operations; prepares changes to security regulations; advises on utilization, capabilities, reliability, and operations in own area of responsibility; establishes and implements program for interviewing, evaluating, and assigning personnel; supervises classified material control systems; administers and evaluates security requirements; organizes and schedules local training programs. *CTTCM:* Able to perform the duties required for CTTCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures; may manage three or four Navy shops or shop crews.

Recommendation, CTT3

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting (2/81).

Recommendation, CTT2

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting (2/81).

Recommendation, CTT1

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in introduction to computer operations, and 1 in technical report writing (2/81).

Recommendation, CTTC

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in introduction to computer operations, 1 in technical report writing, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in introduction to management (2/81).

Recommendation, CTTCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in introduction to computer operations, 1 in technical report writing, 2 in personnel supervision, and 2 in administrative communication. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 for field experience in management, and 2 in personnel management (2/81).

Recommendation, CTTCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in typewriting, 3 in introduction to computer operations, 1 in technical report writing, 2 in personnel supervision, 2 in administrative communication, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours in introduction to management, 3 for field experience in management, 2 in management problems, and 3 in personnel management (2/81).

NER-CTT-002

CRYPTOLOGIC TECHNICIAN, TECHNICAL
CTT3
CTT2
CTT1
CTTC
CTTCS
CTTCM

Exhibit Dates: 1/92–Present.

Occupational Field: 20 (Cryptology).

Career Pattern

SN: Seaman (E-3). CTT3: Cryptologic Technician, Technical, Third Class (E-4). CTT2: Cryptologic Technician, Technical, Second Class (E-5). CTT1: Cryptologic Technician, Technical, First Class (E-6). CTTC: Chief Cryptologic Technician, Technical (E-7). CTTCS: Senior Chief Cryptologic Technician, Technical (E-8). CTTCM: Master Chief Cryptologic Technician, Technical (E-9).

Description

Summary: Operates a computer system to analyze intercepted electronic signals and monitors operational functions. NOTE: Many of the duties required for this rating involve highly classified materials, equipment, and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated.

CTT3: Able to identify and classify the general characteristics of electromagnetic signals; operates a computer system; inspects, cleans, and makes necessary adjustments to keyboard equipment; performs minor repairs; maintains logs, records files, and publications. *CTT2:* Able to perform the duties required for CTT3; prepares routine technical reports; uses analysis equipment, including signal generators, graphic recorders, and spectrum analyzers. *CTT1:* Able to perform the duties required for CTT2; identifies and analyzes complex and sophisticated radio signals; performs system analysis to ensure effective data flow; prepares technical reports. *CTTC:* Able to perform the duties required for CTT1; supervises and maintains communications center; supervises and evaluates subordinates; prepares written evaluation reports; prepares requests for activation or deactivation of communications networks; allocates and tasks manpower assets to complete work load; manages safety program and maintenance program in work area. *CTTCS:* Able to perform the duties required for CTTC; prepares, supervises, and evaluates cryptographic operations; prepares changes to security regulations; advises on utilization capabilities, reliability, and operations in own area of responsibility; establishes and implements program for interviewing, evaluating, and assigning personnel; supervises classified material control systems; administers and evaluates security requirements; organizes and schedules local training programs. *CTTCM:* Able to perform the duties required for CTTCS; plans, organizes, implements, and controls activities that comply with policy statements; forecasts future requirements for own area of responsibility; establishes goals and objectives; reviews and evaluates personnel; performs organizational, manpower, and work load analysis; develops operating budget and monitors expenditures; may manage three or four Navy shops or shop crews.

Recommendation, CTT3

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 1 in technical mathematics, 1 in computer systems and organization, 1 in communications (electronics), and 3 in records and information management (5/92).

Recommendation, CTT2

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), and 3 in records and information management (5/92).

Recommendation, CTT1

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 2 in personnel supervision (5/92).

Recommendation, CTTC

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 3 in personnel supervision (5/92).

Recommendation, CTTCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, CTTCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in technical mathematics, 2 in computer systems and organization, 2 in communications (electronics), 3 in records and information management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-CU-001

Constructionman, Master Chief
CUCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

May progress to CUCM, Master Chief Constructionman (E-9) from BUCS, Senior Chief Builder (E-8), EACS, Senior Chief Engineering Aid (E-8), or SWCS Senior Chief Steelworker (E-8).

Description

Able to perform the duties required for BUCS (Senior Chief Builder), EACS (Senior Chief Engineering Aid), or SWCS (Senior Chief Steelworker); establishes goals and sets priorities in area of responsibility; uses the Critical Path Method; forecasts future personnel equipment and material requirements and takes necessary action to satisfy them; develops procedures for work improvement and simplification through organizational analysis; prepares correspondence and reports; serves as a construction inspector; manages a contracts inspection branch; implements pollution control and energy conservation programs; assists in the management and operations of a public works department; develops operating budgets and monitors expenditures.

Recommendation

In the vocational certificate category, the recommendation is the same as that for BU1 (Builder First Class) in exhibit NER-BU-001; EA1 (Engineering Aid First Class) in exhibit NER-EA-001 (in the 1954-1989 Guide); or NER-EA-002, or SW1 (Steelworker First Class), in exhibit NER-SW-001, as appropriate. In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of administration, 3 in construction contracts and agreements, and 3 in government budgeting procedures; add the 25 semester hours for BUCS (Senior Chief Builder) in exhibit NER-BU-001, the 25 semester hours for EACS (Senior Chief Engineering Aid) in exhibit NER-EA-001 (in the 1954-1989 Guide) or the 26 semester hours in exhibit NER-EA-002; or the 21 semester hours for SWCS (Senior Chief Steelworker) in exhibit NER-SW-001. In the upper-division baccalaureate category, 3 semester hours for a practicum in management, 3 in forecasting, and 3 in management problems; add the 6 semester hours for BUCS in exhibit NER-BU-001, the 6 semester hours for EACS in exhibit NER-EA-001 (in the 1954-1989 Guide) or NER-EA-002; or the 9 semester hours for SWCS in exhibit NER-SW-001, as appropriate (1/77).

NER-CU-002

Constructionman, Master Chief
CUCM

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (construction).

Career Pattern

May progress to CUCM, Master Chief Constructionman (E-9) from BUCS, Senior Chief Builder (E-8); EACS, Senior Chief Engineering Aid (E-8); or SWCS Senior Chief Steelworker (E-8).

Description

Able to perform the personnel, operational, and managerial duties of BUCS (Senior Chief Builder), EACS (Senior Chief Engineering Aid), or SWCS (Senior Chief Steelworker); has the flexibility to perform as a personnel manager, construction manager, project manager, facilities manager, operations chief, or educational administrator; establishes goals and priorities in areas of responsibility; develops procedures for work improvement and simplification through organizational analysis; prepares correspondence and reports; develops operating budgets and monitors expenditures; performs scheduling, planning, and quality control; evaluates the whole organization and understands the functions and capabilities of all the technical and support staff within the organization.

Recommendation

In the lower-division baccalaureate/associate degree category, if the individual progressed from BUCS, use the credit recommendation in exhibit NER-BU-001 or NER-BU-002; if progressed from EACS, use the credit recommendation in exhibit NER-EA-001 (in the 1954-1989 Guide) or NER-EA-002; if progressed from SWCS, use the credit recommendation in exhibit NER-SW-001 or NER-SW-002. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 in operations management, 3 for field experience in management, 3 in construction contracts/specifications, and 3 in computing and estimating (3/91).

NER-DC-001

Damage Controlman
DC3
DC2
DC1
DCC
DCCS
DCCM

Exhibit Dates: 1/90–Present.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *DC3:* Damage Controlman, Third Class (E-4). *DC2:* Damage Controlman, Second Class (E-5). *DC1:* Damage Controlman, First Class (E-6). *DCC:* Chief Damage Controlman (E-7). *DCCS:* Senior

Chief Damage Controlman (E-8). *DCCM:* Master Chief Damage Controlman (E-9).

Description

Summary: Performs organizational and intermediate level maintenance and repair of damage control equipment and systems; plans, supervises, and performs tasks necessary for damage control, ship stability, preservation of watertight integrity, fire fighting, and chemical, biological, and radiological (CBR) warfare defense. *DC3:* Operates and maintains fire fighting, fixed-flooding, wash down, ventilation, dewatering, and air test equipment and damage control life support devices. *DC2:* Able to perform the duties required for DC3; performs radiological and chemical monitoring and surveying; serves as on-scene leader; organizes and directs fire party; inventories damage control equipment. *DC1:* Able to perform the duties required for DC2; instructs and coordinates damage control parties; instructs personnel in the techniques of damage control and CBR defense; supervises and performs tasks in procurement and issuance of supplies and repair parts; prepares records and reports. *DCC:* Able to perform the duties required for DC1; plans and conducts damage control exercises; maintains records and prepares progress reports; supervises training programs; estimates time, personnel, and material requirements; prepares quarterly maintenance schedules. *DCCS:* Able to perform the duties required for DCC; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence; organizes and evaluates training programs; administers a long-range planned maintenance program. *DCCM:* Able to perform the duties required for DCCS; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, DC3

In the lower-division baccalaureate/associate degree category, 1 semester hour in fire protection systems, 4 in portable and fixed extinguishing systems, 1 in fire fighting strategy, and 1 in blueprint reading (3/90).

Recommendation, DC2

In the lower-division baccalaureate/associate degree category, 2 semester hours in fire protection systems, 5 in portable and fixed extinguishing systems, 2 in fire fighting strategy, 1 in chemical radiation hazards, 2 in blueprint reading, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, DC1

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire protection systems, 6 in portable and fixed extinguishing systems, 3 in fire fighting strategy, 2 in chemical radiation hazards, 2 in blueprint reading, 1 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, DCC

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire protection systems, 6 in portable and fixed extinguishing systems, 4 in fire fighting strategy, 3 in chemical radiation hazards, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 2 in ship stability (3/90).

Recommendation, DCCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire protection systems, 6 in portable and fixed extinguishing systems, 4 in fire fighting strategy, 3 in chemical radiation hazards, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 2 in ship stability. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, DCCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in fire protection systems, 6 in portable and fixed extinguishing systems, 4 in fire fighting strategy, 3 in chemical radiation hazards, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 2 in ship stability. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (3/90).

NER-DK-002

DISBURSING CLERK
DK3
DK2
DK1
DKC
DKCS
DKCM

Exhibit Dates: 1/90–11/97.

Occupational Field: 16 (Logistics).

Career Pattern

SN: Seaman (E-3). *DK3:* Disbursing Clerk, Third Class (E-4). *DK2:* Disbursing Clerk, Second Class (E-5). *DK1:* Disbursing Clerk, First Class (E-6). *DKC:* Chief Disbursing Clerk (E-7). *DKCS:* Senior Chief Disbursing Clerk (E-8). *DKCM:* Master Chief Disbursing Clerk (E-9).

Description

Summary: Maintains military personnel financial records, including payroll, travel allowances, and reimbursements; performs related computations; prepares related reports. *DK3:* Maintains files of manuals and documents; types at 20 wpm; types forms and memoranda; processes vouchers for receipt and expenditure of public monies; applies Navy regulations in computation of pay, deductions, and reimbursements; applies Navy regulations in the preparation of leave records; prepares payroll checks for all personnel. *DK2:* Able to perform the duties required for DK3; processes more complex and difficult transactions; may train and supervise subordinates. *DK1:* Able to perform the duties required for DK2; organizes the flow of work in the disbursing office; ensures accuracy of data base for personnel and pay records; prepares correspondence and messages; prepares budgets; handles cash funds; audits entries on statements and documents; supervises subordinates. *DKC:* Able to perform the duties required for DK1; supervises the operation of a disbursing office; monitors source data system for security requirements; interprets regulations and identifies disbursement procedures; audits reports, records, and vouchers. *DKCS:* Able to perform the duties required for DKC; supervises a large finance establishment; establishes and administers training programs in pay procedures; evaluates local systems of internal control and submits recommendations concerning plans and procedures; prepares directives for the purpose of attaining organization goals and objectives; writes correspondence, directives, and instructions; prepares written staff studies. *DKCM:* Able to perform the duties required for DKCS; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements and forecasts future requirements; develops operating budgets and monitors expenditures; directs an inspection and audit of the financial transactions of a disbursing office.

Recommendation, DK3

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in payroll accounting, 1 in automatic data processing (ADP) operations, 1 in record keeping, and 1 in interpersonal communication (3/90).

Recommendation, DK2

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in payroll accounting, 2 in automatic data processing (ADP) operations, 1 in record keeping, and 1 in interpersonal communication (3/90).

Recommendation, DK1

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in payroll accounting, 2 in automatic data processing (ADP) operations, 1 in office administration, 2 in record keeping, 2 in principles of supervision, 2 in interpersonal communication, and 1 in internal auditing procedures. In the upper-division baccalaureate category, 2 semester hours in management problems (3/90).

Recommendation, DKC

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in payroll accounting, 3 in automatic data processing (ADP) operations, 2 in office administration, 2 in record keeping, 3 in principles of supervision, 2 in interpersonal communication, and 2 in internal auditing procedures. In the upper-division baccalaureate category, 2 semester hours in management problems, 2 in human resource management, and 2 for field experience in management (3/90).

Recommendation, DKCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in office procedures, 3 in payroll accounting, 3 in automatic data processing (ADP) operations, 2 in office administration, 2 in record keeping, 3 in principles of supervision, 3 in interpersonal communication, 2 in business communication, and 2 in internal auditing procedures. In the upper-division baccalaureate category, 2 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/90).

Recommendation, DKCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in office procedures, 3 in payroll accounting, 3 in automatic data processing (ADP) operations, 2 in office administration, 2 in record keeping, 3 in principles of supervision, 3 in interpersonal communication, 3 in business communication, and 2 in internal auditing procedures. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (3/90).

NER-DK-003

Disbursing Clerk
DK3
DK2
DK1
DKC
DKCS
DKCM

Exhibit Dates: 12/97–Present.

Occupational Field: 16 (Logistics).

Career Pattern

SN: Seaman (E-3). *DK3:* Disbursing Clerk, Third Class (E-4). *DK2:* Disbursing Clerk, Second Class (E-5). *DK1:* Disbursing Clerk, First Class (E-6). *DKC:* Chief Disbursing Clerk (E-7). *DKCS:* Senior Chief Disbursing Clerk (E-8). *DKCM:* Master Chief Disbursing Clerk (E-9).

Description

Summary: Maintains military personnel financial records, including payroll, travel allowances, and reimbursements; performs related computations; prepares related reports. *DK3:* Maintains files of manuals and documents; operates a personal computer and uses appropriate software for disbursement rating; types forms and memoranda; processes vouchers for receipt and expenditure of public monies; applies Navy regulations in computation of pay, deductions, and reimbursements; applies Navy regulations in the preparation of leave records; prepares payroll checks; establishes automatic teller machine (ATM) accounts; verifies ATM accounts; verifies and processes dependency applications and leave documents. *DK2:* Able to perform the duties required for DK3; processes more complex and difficult transactions areas allowances: audits mortgage agreements and COLA documents; pays: audits discharge and separation documents and dependency documents; banking: verifies certificates of deposit and audits checks for public vouchers; travel: audits travel claims; foreign currency: prepares purchase, disposition, gain or loss documents, and performs ATM physical security; installs automated disbursing system updates; may train and/or supervise subordinates. *DK1:* Able to perform the duties required for DK2; organizes the flow of work in the disbursing office; ensures accuracy of data base for personnel and pay records; prepares correspondence and messages; prepares budgets; handles cash funds; audits entries on statements and documents (for example, travel and foreign currency); supervises subordinates. *DKC:* Able to perform the duties required for DK1; supervises the operation of a disbursing office; monitors source data system for security requirements; interprets regulations and identifies disbursement procedures; audits reports, records, and vouchers. *DKCS:* Able to perform the duties required for DKC; supervises a large finance establishment; establishes and administers training programs in pay procedures; evaluates local systems of internal control and submits recommendations concerning plans and procedures; prepares directives for the purpose of attaining organization goals and objectives; writes correspondence, directives, and instructions; prepares written staff studies. *DKCM:* Able to perform the duties required for DKCS; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements and forecasts future requirements; develops operating budgets and monitors expenditures; directs inspection and audit of the financial transactions of a disbursing office.

Recommendation, DK3

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in accounting, 3 in automatic data processing operations, and 1 in record keeping (11/97).

Recommendation, DK2

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 1 in office procedures, 2 in accounting, 3 in automatic data processing operations, 1 in record keeping, and 1 in internal auditing procedures (11/97).

Recommendation, DK1

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in accounting, 3 in automatic data processing operations, 1 in office administration, 2 in record keeping, 2 in principles of supervision, and 2 in internal auditing procedures. In the upper-division baccalaureate category, 2 semester hours in management problems (11/97).

Recommendation, DKC

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in office procedures, 3 in accounting, 3 in automatic data processing (ADP) operations, 2 in office administration, 2 in record keeping, 3 in principles of supervision, and 3 in internal auditing procedures. In the upper-division baccalaureate category, 2 semester hours in management problems, 2 in human resource management, and 2 for field experience in management (11/97).

Recommendation, DKCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in office procedures, 3 in accounting, 3 in automatic data processing operations, 2 in office administration, 2 in record keeping, 3 in principles of supervision, 2 in business communication, and 3 in internal auditing procedures. In the upper-division baccalaureate category, 2 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (11/97).

Recommendation, DKCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in office procedures, 3 in accounting, 3 in automatic data processing (ADP) operations, 2 in office administration, 2 in record keeping, 3 in principles of supervision, 3 in business communication, and 3 in internal auditing procedures. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in human resource management, and 3 in management problems (11/97).

NER-DM-002

Illustrator Draftsman
DM3
DM2
DM1
DMC
DMCS
DMCM

Exhibit Dates: 1/90–1/96.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *DM3:* Illustrator Draftsman, Third Class (E-4). *DM2:* Illustrator Draftsman, Second Class (E-5). *DM1:* Illustrator Draftsman, First Class (E-6). *DMC:* Chief Illustrator Draftsman (E-7). *DMCS:* Senior Chief Illustrator Draftsman (E-8). *DMCM:* Master Chief Illustrator Draftsman (E-9).

Description

Summary: Makes illustrations with pen and ink, water color, and other art media; makes orthographic and other mechanical drawings; operates and maintains graphic arts reproduction and audiovisual presentation equipment. *DM3:* Makes illustrations with pen and ink, water color, pencils, art markers, and other media for posters, graphs, charts, training aids, books, and publications; mixes colors; designs and executes freehand drawings in realistic and/or cartoon style; makes orthographic and other mechanical drawings; prepares sketches and drawings for visual presentations; mounts and retouches photographs; uses and performs operator maintenance on graphic arts reproduction and audio visual presentation equipment; sets up and operates office duplicators (offset reproduction). *DM2:* Able to perform the duties required for DM3; uses horizontal and vertical copy cameras; constructs basic cartoon figures; draws overlays with acetate inks and cell paints; uses electronic mixers and pulse generators in sound-slide presentations; makes technical illustrations (isometric, phantom, and exploded views); estimates time and materials needed for assigned jobs; maintains technical library. *DM1:* Able to perform the duties required for DM2; schedules and assigns routine shop work; prepares cost estimates for work requested; uses air brush for illustrations and for retouching photographs; and uses and maintains silkscreen process equipment. *DMC:* Able to perform the duties required for DM1; organizes a training aids and graphics shop; ensures compliance with copy and reproduction regulations; evaluates visual aids and maintains quality control; monitors control of produced classified material. *DMCS:* Able to perform the duties required for DMC; provides technical advice concerning illustration and drafting equipment; prepares directives and instructions for achieving organization objectives and improving operations; establishes and implements a program for interviewing, evaluating, and assigning personnel; organizes, schedules, and evaluates training programs; monitors quality control assurance requirements. *DMCM:* Able to perform the duties required for DMCS; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; develops operating budgets and monitors expenditures; evaluates and makes recommendations for new audiovisual equipment and innovations.

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Recommendation, DM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, and 3 in basic techniques of commercial art (3/86).

Recommendation, DM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, and 3 for field experience in graphics (3/86).

Recommendation, DM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 for field experience in graphics, 3 in silkscreen printing, and 2 in graphic arts management. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics) (3/86).

Recommendation, DMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 for field experience in graphics, 3 in silkscreen printing, 3 in graphic arts management, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics) (3/86).

Recommendation, DMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 for field experience in graphics, 3 in silkscreen printing, 3 in graphic arts management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics), 3 for field experience in management, and 3 in management problems (3/86).

Recommendation, DMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 for field experience in graphics, 3 in silkscreen printing, 3 in graphic arts management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics), 6 for field experience in management, and 3 in management problems (3/86).

NER-DM-003

ILLUSTRATOR DRAFTSMAN

DM3
DM2
DM1
DMC
DMCS
DMCM

Exhibit Dates: 2/96–Present.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *DM3:* Illustrator Draftsman, Third Class (E-4). *DM2:* Illustrator Draftsman, Second Class (E-5). *DM1:* Illustrator Draftsman, First Class (E-6). *DMC:* Chief Illustrator Draftsman (E-7). *DMCS:* Senior Chief Illustrator Draftsman (E-8). *DMCM:* Master Chief Illustrator Draftsman (E-9).

Description

Summary: Makes illustrations with pen and ink, water color, computer graphics programs, and other art media; makes orthographic and other mechanical drawings; operates and maintains graphic arts reproduction and audiovisual presentation equipment, and computer graphics workstations. *DM3:* Makes illustrations with pen and ink, water color, pencils, art makers, computer graphics programs, and other media for posters, graphs, charts, training aids, books, and publications; mixes colors; designs and executes drawings in realistic and/or cartoon style; makes orthographic and other mechanical drawings; prepares sketches and drawings for visual presentations; mounts and retouches photographs; uses various computer platforms and graphics applications programs for computer generated graphics; uses and performs operator maintenance on graphic arts reproduction and audio visual presentation equipment; sets up and operates office duplicators (offset reproduction). *DM2:* Able to perform the duties required for DM3; uses horizontal and vertical copy cameras; constructs basic cartoon figures; draws overlays with acetate inks and cell paints; uses electronic mixers and pulse generators in sound-slide presentations; makes technical illustrations (isometric, phantom, and exploded views); estimates time and materials needed for assigned jobs; maintains technical library. *DM1:* Able to perform the duties required for DM2; schedules and assigns routine shop work; prepares cost estimates for work requested; uses air brush for illustrations and for retouching photographs; uses and maintains silkscreen process equipment. *DMC:* Able to perform the duties required for DM1; organizes a training aids and graphics shop; ensures compliance with copy and reproduction regulations; evaluates visual aids and maintains quality control; monitors control of produced classified material. *DMCS:* Able to perform the duties required for DMC; provides technical advice concerning illustration and drafting equipment; prepares directives and instructions for achieving organization objectives and improving operations; establishes and implements a program for interviewing, evaluating, and assigning personnel; organizes, schedules, and evaluates training programs; monitors quality control assurance requirements. *DMCM:* Able to perform the duties required for DMCS; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; develops operating budgets and monitors expenditures; evaluates and makes recommendations for new audiovisual equipment and innovations.

Recommendation, DM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, and 3 in computer generated graphics (2/96).

Recommendation, DM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, and 3 in computer generated graphics (2/96).

Recommendation, DM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 in computer generated graphics, 3 in silkscreen printing, and 2 in graphic arts management. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics) (2/96).

Recommendation, DMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 in computer generated graphics, 3 in silkscreen printing, 3 in graphic arts management, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics) (2/96).

Recommendation, DMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 in computer generated graphics, 3 in silkscreen printing, 3 in graphic arts management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics), 3 for field experience in management, and 3 in management problems (2/96).

Recommendation, DMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic drawing, 3 in visual design, 3 in technical drafting, 3 in basic techniques of commercial art, 3 in technical illustrating, 3 in visual graphics, 3 in computer generated graphics, 3 in silkscreen printing, 3 in graphic arts management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in industrial arts education (graphics), 6 for field experience in management, and 3 in management problems (2/96).

NER-DN-001

DENTALMAN

DN

Exhibit Dates: 1/90–4/92.

Career Pattern

Dentalman is a general rate (Naval apprenticeship) for persons at pay grades E-1 (recruit), E-2 (Dentalman apprentice), and E-3 (Dentalman). At pay grade E-4 (petty officer, third class), the person may enter any one of the following ratings: Dental Technician, General (DTG); Dental Technician, Repair (DTR); or Dental Technician, Prosthodontics (DTP).

Description

Assists dental officers in the treatment of patients; performs first aid; maintains, sterilizes, and arranges dental instruments; cares for dental equipment; maintains dental offices and dental records; uses medical terminology and standard abbreviations; identifies bones of head, neck, and oral structures; classifies and identifies teeth and supporting structures; instructs patients in oral health education.

Recommendation

In the lower-division baccalaureate/associate degree category, 2-3 semester hours for a dental practicum, 3 in dental assisting, 1 in dental office procedures, 3 in dental anatomy, and 3 in dental radiography. NOTE: Credit for Dentalman (DN) should be granted only after pay grade E-3 has been achieved (12/81).

NER-DN-002

Dentalman
DN

Exhibit Dates: 5/92–Present.

Career Pattern

Dentalman is a general rate (Naval apprenticeship) for persons at pay grades E-1 (recruit), E-2 (Dentalman apprentice), and E-3 (Dentalman). At pay grade E-4 (petty officer, third class), the person progresses to the Dental Technician (DT) rating.

Description

Assists dental officers in the treatment of patients and the performance of general dentistry procedures; performs first aid; maintains, sterilizes, and arranges dental instruments; practices infection control procedures; exposes and processes dental X-ray films; cares for dental equipment; maintains dental offices and dental records; performs cardiopulmonary resuscitation; renders emergency first aid; uses medical terminology and standard abbreviations; identifies bones of head, neck, and oral structures; classifies and identifies teeth and supporting structures; instructs patients in oral health education.

Recommendation

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 1 in infection control procedures, 3 in dental assisting practicum, 3 in chairside dental assisting, 3 in dental anatomy, 3 in dental radiography, and 1 in dental office procedures. NOTE: Credit for Dentalman (DN) should be granted only after pay grade E-3 has been achieved (5/93).

NER-DP-002

Data Processing Technician
DP3
DP2
DP1
DPC
DPCS
DPCM

Exhibit Dates: 1/90–10/98. Effective 10/98, the Data Processing Technician rating merged with the Radioman rating.

Occupational Field: 12 (Data Systems).

Career Pattern

SN: Seaman (E-3). *DP3:* Data Processing Technician, Third Class (E-4). *DP2:* Data Processing Technician, Second Class (E-5). *DP1:* Data Processing Technician, First Class (E-6). *DPC:* Chief Data Processing Technician (E-7). *DPCS:* Senior Chief Data Processing Technician (E-8). *DPCM:* Master Chief Data Processing Technician (E-9).

Description

Summary: Operates data processing equipment to record source data; sets up and operates data processing equipment, including card, magnetic tape, disk, computers, and peripherals. *DP3:* Prepares program controls; handles and stores cards, magnetic tapes, and disk packs in compliance with environmental requirements; processes data and record operations; performs routine user maintenance on data processing equipment; uses maintenance and procedure manuals and operational flow charts; maintains data medium library records. *DP2:* Able to perform the duties required for DP3; supervises data medium library records and the preparation and operation of computer peripherals; constructs programming, data and operational flow charts, decision tables, and internal and external subroutine programs; differentiates source and object programs, low-level and high-level programming languages, and the purposes of automatic and programmed checks. *DP1:* Able to perform the duties required for DP2; schedules electronic data processing (EDP) run, ensuring accurate and timely processing; prepares and maintains flow charts for manual and machine operating procedures; prepares and maintains a program run book; writes, debugs, and documents interactive and batch COBOL and FORTRAN programs; performs systems analysis; identifies characteristic of open and closed subroutines; identifies functions of index registers; trains and evaluates personnel in local automatic (ADP) and electronic data processing procedures. *DPC:* Able to perform the duties required for DP1; analyzes ADP and EDP systems and subsystems; implements computer maintenance and diagnostic programs; designs input and output requirements for systems and subsystems; ensures quality assurance of ADP generated products; designs and documents specifications for COBOL or FORTRAN programs; implements data file and data base management systems; ensures data integrity; directs an ADP installation or office operation. *DPCS:* Able to perform the duties required for DPC; coordinates ADP methods and procedures, site preparation, installation and operation, and activities between ADP installation units including data communications; analyzes proposed EDP changes; designs ADP software systems; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel; prepares local directives and instructions for attaining organization objective, improving operations, and achieving computer security; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements. *DPCM:* Able to perform the duties required for DPCS; establishes correspondence and report control system procedures; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; establishes goals, objectives, and priorities and forecasts future requirements; reviews personnel, equipment, and material requirements; develops operating budget and monitors expenditures.

Recommendation, DP3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing and 3 in computer operations (11/83).

Recommendation, DP2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in computer operations, 3 in systems design I, and 3 in computer programming concepts (11/83).

Recommendation, DP1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in computer operations, 3 in systems design I, 3 in computer programming concepts, 3 in FORTRAN, 3 in COBOL I, 2 in personnel supervision, and 3 in human relations (11/83).

Recommendation, DPC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in computer operations, 3 in systems design I, 3 in computer programming concepts, 3 in FORTRAN, 3 in COBOL I, 3 in data base concepts, 3 in personnel supervision, and 3 in human relations (11/83).

Recommendation, DPCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in computer operations, 3 in systems design I, 3 in computer programming concepts, 3 in FORTRAN, 3 in COBOL I, 3 in data base concepts, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (11/83).

Recommendation, DPCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in computer operations, 3 in systems design I, 3 in computer programming concepts, 3 in FORTRAN, 3 in COBOL I, 3 in data base concepts, 3 in personnel supervision, and 3 in human relations. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (11/83).

NER-DS-001

Data Systems Technician
DS3
DS2
DS1
DSC
DSCS
DSCM

Exhibit Dates: 1/90–2/96.

Occupational Field: 12 (Data Systems).

Career Pattern

SN: Seaman (E-3). *DS3:* Data Systems Technician, Third Class (E-4). *DS2:* Data Systems Technician, Second Class (E-5). *DS1:* Data Systems Technician, First Class (E-6). *DSC:* Chief Data Systems Technician (E-7). *DSCS:* Senior Chief Data Systems Technician (E-8). *DSCM:* Master Chief Data Systems Technician (E-9).

Description

Summary: Performs general maintenance and repair on electronic data systems and equipment, including computers, data storage devices, digital interface and display equipment, link terminals, and related equipment. *DS3:* Inspects and tests equipment and components; solders connections; measures voltage and resistance; analyzes circuits; traces defective parts; repairs electronic subassemblies; routinely uses electronics test equipment; diagnoses and repairs malfunctions in analog/digital computers; performs fundamental programming; performs preventive maintenance on analog/digital data equipment; evaluates performance of test equipment and signal generators; uses electrical and electronic schematics; uses and maintains common and special purpose hand tools. *DS2:* Able to perform the duties required for DS3; evaluates performance of test equipment and signal generators; aligns and calibrates digital and analog devices; troubleshoots and adjusts electromechanical devices in digital systems; applies minor changes to programmed maintenance routines; constructs program flow charts. *DS1:* Able to perform the duties required for DS2; applies methods of controlling electrical interference; prepares weekly schedules of preventive maintenance. *DSC:* Able to perform the duties required for DS1; supervises and inspects electronic data system maintenance and repair; constructs and operates computer operational and maintenance programs; identifies interface characteristics of digital data system and other related systems; compiles data for performance and maintenance reports; maintains records; analyzes digital data equipment failure trends; determines deficiencies and establishes corrective action; supervises inspection procedures. *DSCS:* Able to perform the duties required for DSC; analyzes operations where safety problems exist; corrects problems; uses programming language; writes directives and instructions; interviews and assigns personnel; prepares correspondence; administers a long-range planned maintenance program. *DSCM:* Able to perform the duties required for DSCS; establishes goals and priorities; forecasts requirements; evaluates personnel and equipment requirements; plans, organizes, and implements activities; develops operating budgets and monitors expenditures.

Recommendation, DS3

In the vocational certificate category, 3 semester hours in computer systems, 6 in computer maintenance, 2 in electronics laboratory, 3 in vocational mathematics, and additional credit in these areas on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 6 in computer systems analysis, 2 in industrial arts (electronics), and additional credit in these areas on the basis of institutional evaluation (10/87).

Recommendation, DS2

In the vocational certificate category, 3 semester hours in computer systems, 9 in computer maintenance, 6 in electronics laboratory, 3 in vocational mathematics, and additional credit in these areas on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems analysis, 3 in industrial arts (electronics), and additional credit in these areas on the basis of institutional evaluation (10/87).

Recommendation, DS1

In the vocational certificate category, 6 semester hours in computer systems, 9 in computer maintenance, 6 in electronics laboratory, 3 in vocational mathematics, and additional credit in these areas on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems analysis, 6 in industrial arts (electronics), 3 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation (10/87).

Recommendation, DSC

In the vocational certificate category, 6 semester hours in computer systems, 9 in computer maintenance, 6 in electronics laboratory, 3 in vocational mathematics, and additional credit in these areas on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems analysis, 6 in industrial arts (electronics), 6 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation (10/87).

Recommendation, DSCS

In the vocational certificate category, 6 semester hours in computer systems, 9 in computer maintenance, 6 in electronics laboratory, 3 in vocational mathematics, and additional credit in these areas on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems analysis, 6 in industrial arts (electronics), 6 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in human relations (10/87).

Recommendation, DSCM

In the vocational certificate category, 6 semester hours in computer systems, 9 in computer maintenance, 6 in electronics laboratory, 3 in vocational mathematics, and additional credit in these areas on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems analysis, 6 in industrial arts (electronics), 6 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in human relations (10/87).

NER-DS-002

DATA SYSTEMS TECHNICIAN
DS3
DS2
DS1
DSC
DSCS
DSCM

Exhibit Dates: 3/96–Present.

Occupational Field: 12 (Data Systems).

Career Pattern

SN: Seaman (E-3). *DS3:* Data Systems Technician, Third Class (E-4). *DS2:* Data Systems Technician, Second Class (E-5). *DS1:* Data Systems Technician, First Class (E-6). *DSC:* Chief Data Systems Technician (E-7). *DSCS:* Senior Chief Data Systems Technician (E-8). *DSCM:* Master Chief Data Systems Technician (E-9).

Description

Summary: Performs general maintenance and repair on electronic data systems and equipment, including computers, data storage devices, digital interface and display equipment, link terminals, local area networking, and related equipment. *DS3:* Inspects and tests equipment and components; solders connections; measures voltage and resistance; analyzes circuits; traces defective parts; repairs electronic subassemblies; routinely uses electronics test equipment; diagnoses and repairs malfunctions in analog/digital computers; performs fundamental programming; performs preventive maintenance on analog/digital data equipment; evaluates performance of test equipment and signal generators; uses electrical and electronic schematics; uses and maintains common and special purpose hand tools. *DS2:* Able to perform the duties required for DS3; evaluates performance of test equipment and signal generators; aligns and calibrates digital and analog devices; troubleshoots and adjusts electromechanical devices in digital systems; applies minor changes to programmed maintenance routines; constructs program flow charts. *DS1:* Able to perform the duties required for DS2; applies methods of controlling electrical interference; prepares weekly schedules of preventive maintenance. *DSC:* Able to perform the duties required for DS1; supervises and inspects electronic data system maintenance and repair; constructs and operates computer operational and maintenance programs; identifies interface characteristics of digital data system and other related systems; compiles data for performance and maintenance reports; maintains records; analyzes digital data equipment failure trends; determines deficiencies and establishes corrective action; supervises inspection procedures. *DSCS:* Able to perform the duties required for DSC; analyzes operations where safety problems exist; corrects problems; uses programming language; writes directives and instructions; interviews and assigns personnel; prepares correspondence; administers a long-range planned maintenance program. *DSCM:* Able to perform the duties required for DSCS; establishes goals and priorities; forecasts requirements; evaluates personnel and equipment requirements; plans, organizes, and implements activities; develops operating budgets and monitors expenditures.

Recommendation, DS3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 6 in computer systems, 2 in electronics laboratory, 6 in computer maintenance/repair, and additional credit in these areas on the basis of institutional evaluation (3/96).

Recommendation, DS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems, 2 in electronics laboratory, 6 in computer maintenance/repair, and additional credit in these areas on the basis of institutional evaluation (3/96).

Recommendation, DS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems, 2 in electronics laboratory, 6 in computer maintenance/repair, 3 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation (3/96).

Recommendation, DSC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems, 2 in electronics laboratory, 6 in computer maintenance/repair, 6 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation (3/96).

Recommendation, DSCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems, 2 in electronics laboratory, 6 in computer maintenance/repair, 6 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in human relations (3/96).

Recommendation, DSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to electronics, 3 in digital circuits, 9 in computer systems, 2 in electronics laboratory, 6 in computer maintenance/repair, 6 in personnel supervision, and additional credit in these areas on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in human relations (3/96).

NER-DT-001

DENTAL TECHNICIAN, SENIOR CHIEF AND MASTER CHIEF
DTCS
DTCM

Exhibit Dates: 1/90–4/92.

Occupational Field: 14 (Health Care).

Career Pattern

May progress from DTGC, Chief Dental Technician, General (E-7); DTPC, Chief Dental Technician, Prosthodontics (E-7); or DTRC, Chief Dental Technician, Repair (E-7). *DTCS:* Senior Chief Dental Technician (E-8). *DTCM:* Master Chief Dental Technician (E-9).

Description

DTCS: Able to perform the duties required for DTGC (Chief Dental Technician, General); DTPC (Chief Dental Technician, Prosthodontics); or DTRC (Chief Dental Technician, Repair); prepares directives and instructions for attaining organization objectives and improving operations; establishes a program for interviewing, evaluating, and assigning personnel for maximum utilization; prepares correspondence; organizes and schedules training programs. *DTCM:* Able to perform the duties required for DTCS; plans, organizes, and implements activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; establishes goals, objectives, and priorities; provides counseling on medical department training opportunities; develops operating budgets and monitors expenditures.

Recommendation, DTCS

In the lower-division baccalaureate/associate degree category, use the recommendation for DTGC (Chief Dental Technician, General) in exhibit NER-DTG-001; DTPC (Chief Dental Technician, Prosthodontics) in exhibit NER-DTP-001; or DTRC (Chief Dental Technician, Repair) in exhibit NER-DTR-001. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in business management, 3 in human relations, 3 for field experience in management, and 3 in dental care administration. NOTE: Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTCM

In the lower-division baccalaureate/associate degree category, use the recommendation for DTGC (Chief Dental Technician, General) in exhibit NER-DTG-001; DTPC (Chief Dental Technician, Prosthodontics) in exhibit NER-DTP-001; or DTRC (Chief Dental Technician, Repair) in exhibit NER-DTR-001. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in business management, 3 in human relations, 6 for field experience in management, 3 in dental care administration, and 3 in dental care planning. NOTE: Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

NER-DT-002

DENTAL TECHNICIAN
DT3
DT2
DT1
DTC
DTCS
DTCM

Exhibit Dates: 5/92–Present.

Occupational Field: 14 (Health Care).

Career Pattern

DN: Dentalman (E-3). *DT3:* Dental Technician, Third Class (E-4). *DT2:* Dental Technician, Second Class (E-5). *DT1:* Dental Technician, First Class (E-6). *DTC:* Chief Dental Technician (E-7). *DTCS:* Senior Chief Dental Technician (E-8). *DTCM:* Master Chief Dental Technician (E-9).

Description

Summary: Assists dental officers in the treatment of patients; performs clinical and administrative duties. *DT3:* Assists dental officers in all phases of dentistry; performs routine scaling and polishing of teeth; prepares and maintains dental treatment records; maintains dental appointment system; performs routine maintenance on dental equipment. *DT2:* Able to perform the duties required for DT3; prepares dental materials and setups for all phases of dentistry; prepares oral health education material for presentation to groups; supervises the clinical duties and assignments of subordinates. *DT1:* Able to perform the duties required for DT2; directs preventive dentistry programs; requisitions and maintains records of dental supplies and equipment; performs minor repairs and operational checks on dental equipment; ensures proper security of dental supplies and equipment. *DTC:* Able to perform the duties required for DT1; assists with administration of central facilities; supervises and coordinates record management programs; supervises performance evaluation programs; maintains financial records; analyzes budgetary and programming requirements; analyzes manpower authorizations for accuracy and adequacy; responsible for the inventory control of dental supplies and equipment. *DTCS:* Able to perform the duties required for DTC; prepares directives and instructions for attaining organization objectives and improving operations; establishes a program for interviewing, evaluating, and assigning personnel for maximum utilization; prepares correspondence; organizes and schedules training programs. *DTCM:* Able to perform the duties required for DTCS; plans, organizes, and implements activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; establishes goals, objectives, and priorities; provides counseling on medical department training opportunities; develops operating budgets and monitors expenditures.

Recommendation, DT3

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental office procedures, and 2 in dental hygiene clinical practice. Add the credit recommended for Dentalman (E-3) in either exhibit NER-DN-001 or NER-DN-002 (5/93).

Recommendation, DT2

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental office procedures, 3 in dental hygiene clinical practice, 2 in personnel supervision, and 3 in records and information management. Add the credit recommended for Dentalman (E-3) in either exhibit NER-DN-001 or NER-DN-002 (5/93).

Recommendation, DT1

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental office procedures, 3 in dental hygiene clinical practice, 3 in personnel supervision, 3 in records and information management, and 3 in dental office management. Add the credit recommended for Dentalman (E-3) in either exhibit NER-DN-001 or NER-DN-002 (5/93).

Recommendation, DTC

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental office procedures, 3 in dental hygiene clinical practice, 3 in personnel supervision, 3 in records and information management, and 4 in dental office management. In the upper-division baccalaureate category, 3 semester hours in communication techniques for managers. Add the credit recommended for Dentalman (E-3) in either exhibit NER-DN-001 or NER-DN-002 (5/93).

Recommendation, DTCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental office procedures, 3 in dental hygiene clinical practice, 3 in personnel supervision, 3 in records and information management, and 4 in dental office management. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 for field experience in management, 3 in management problems, and 3 in communication techniques for managers. Add the credit recommended for Dentalman (E-3) in either exhibit NER-DN-001 or NER-DN-002 (5/93).

Recommendation, DTCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental office procedures, 3 in dental hygiene clinical practice, 3 in personnel supervision, 3 in records and information management, and 4 in dental office management. In the upper-division baccalaureate category, 3 semester hours in human resource management, 6 for field experience in management, 3 in management problems, and 3 in communication techniques for managers. Add the credit recommended for Dentalman (E-3) in either exhibit NER-DN-001 or NER-DN-002 (5/93).

NER-DTG-001

DENTAL TECHNICIAN, GENERAL
DTG3
DTG2
DTG1
DTGC

Exhibit Dates: 1/90–4/92.

Occupational Field: 14 (Health Care).

Career Pattern

DN: Dentalman (E-3). DTG3: Dental Technician, General, Third Class (E-4). DTG2: Dental Technician, General, Second Class (E-5). DTG1: Dental Technician, General, First Class (E-6). DTGC: Chief Dental Technician, General (E-7). *DTCS:* Senior Chief Dental Technician (E-8). *DTCM:* Master Chief Dental Technician (E-9).

Description

Summary: Assists dental officers in the treatment of patients; performs clinical and administrative duties. *DTG3:* Assists dental officers in all phases of dentistry; performs routine scaling and polishing of teeth; performs cardiopulmonary resuscitation; prepares dental treatment records; maintains dental appointment system; performs routine maintenance on dental equipment. *DTG2:* Able to perform the duties required for DTG3; prepares dental materials and setups for all phases of dentistry; prepares oral health education material for presentation to groups; coordinates the clinical duties and assignment of subordinate personnel. *DTG1:* Able to perform the duties required for DTG2; directs preventive dentistry programs; requisitions and maintains records of dental supplies and equipment; performs minor repairs and operational checks on dental equipment; ensures proper security of dental supplies and equipment. *DTGC:* Able to perform the duties required for DTG1; supervises and coordinates record management programs; supervises performance evaluation programs; maintains financial records; analyzes budgetary and programming requirements; analyzes manpower authorizations for accuracy and adequacy; responsible for the inventory control of dental supplies and equipment.

Recommendation, DTG3

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 1 in cardiopulmonary resuscitation, and 2 in dental office procedures. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTG2

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 1 in cardiopulmonary resuscitation, 2 in dental office procedures, 1 in personnel supervision, and 2 in dental records management. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTG1

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 1 in cardiopulmonary resuscitation, 2 in dental office procedures, 3 in personnel supervision, 2 in dental records management, and 3 in dental office management. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTGC

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 1 in cardiopulmonary resuscitation, 2 in dental office procedures, 3 in personnel supervision, 2 in dental records management, 3 in dental office management, 3 in business management, and 2 in communication techniques. In the upper-division baccalaureate category, 3 semester hours in personnel management. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

NER-DTP-001

DENTAL TECHNICIAN, PROSTHODONTICS
DTP3
DTP2
DTP1
DTPC

Exhibit Dates: 1/90–4/92.

Occupational Field: 14 (Health Care).

Career Pattern

DN: Dentalman (E-3). DTP3: Dental Technician, Prosthodontics, Third Class (E-4). DTP2: Dental Technician, Prosthodontics, Second Class (E-5). DTP1: Dental Technician, Prosthodontics, First Class (E-6). DTPC: Chief Dental Technician, Prosthodontics (E-7). *DTCS:* Senior Chief Dental Technician, Prosthodontics (E-8). *DTCM:* Master Chief Dental Technician, Prosthodontics (E-9).

Description

Summary: Assists dental officer in all phases of prosthetic dentistry; constructs and repairs prosthetic dental devices. *DTP3:* Prepares setups and dental materials used in prosthetic procedures; performs routine scaling and polishing of teeth; constructs and repairs dental devices; performs routine maintenance on dental equipment. *DTP2:* Able to perform the duties required for DTP3; prepares and maintains dental laboratory records and precious metal records. *DTP1:* Able to perform the duties required for DTP2; supervises a dental laboratory; requisitions dental supplies and equipment; maintains dental appointment system; performs minor repairs and operational checks on dental equipment; ensures proper security of dental supplies and equipment. *DTPC:* Able to perform the duties required for DTP1; supervises and coordinates dental laboratory records management programs; supervises the performance evaluation program; analyzes manpower authorizations for accuracy and adequacy.

Recommendation, DTP3

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid and 2 in dental laboratory procedures. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTP2

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental laboratory procedures, 2 in dental laboratory records management (prosthetic), and 3 in prosthetic procedures. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTP1

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental laboratory procedures, 2 in dental laboratory records management (prosthetic), 3 in prosthetic procedures, 3 in dental laboratory management, and 2 in personnel supervision. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

Recommendation, DTPC

In the lower-division baccalaureate/associate degree category, 1 semester hour in first aid, 2 in dental laboratory procedures, 2 in dental laboratory records management (prosthetic), 3 in prosthetic procedures, 3 in dental laboratory management, 3 in personnel supervision, and 3 in business management. In the upper-division baccalaureate category, 3 semester hours in personnel management. Add the credit recommended for Dentalman (E-3) in exhibit NER-DN-001 (12/81).

NER-DTR-001

DENTAL TECHNICIAN, REPAIR
DTR2
DTR1
DTRC

Exhibit Dates: 1/90–4/92.

Occupational Field: 14 (Health Care).

Career Pattern

DN: Dentalman (E-3). DTG3: Dental Technician, General, Third Class (E-4). DTR2: Dental Technician, Repair, Second Class (E-5). DTR1: Dental Technician, Repair, First Class (E-6). DTRC: Chief Dental Technician, Repair (E-7). *DTCS:* Senior Chief Dental Technician (E-8). *DTCM:* Master Chief Dental Technician (E-9).

Description

Summary: Performs or supervises maintenance and repair of dental equipment. *DTR2:* Able to perform the duties required for DTG3; performs preventive maintenance and repair on air and water control units, patient positioning chairs, intraoral and panoramic X-ray machines, X-ray film processors, dental hand pieces, and general dental support apparatus; supervises sterilization procedures; files directives and technical manuals pertaining to dental equipment and maintenance activities; prepares dental equipment reports. NOTE: Progressed to DTR2 from DTG3 (Dental Technician, General, Third Class). *DTR1:* Able to perform the duties required for DTR2; applies procedures for treatment and mass casualties; prepares correspondence; conducts in-service training for dental maintenance and repair activities; develops and maintains a repairman's preventive maintenance program for dental facilities; develops and maintains maintenance records; requisitions and maintains records for issue and disposal of dental equipment. *DTRC:* Able to perform the duties required for DTR1; analyzes manpower authorizations; supervises dental equipment repair records; supervises and evaluates performance of subordinates; serves as dental equipment maintenance supervisor; analyzes and projects programming and budgetary requirements.

Recommendation, DTR2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity and electronic circuits, 2 in electrical troubleshooting techniques, and 2 in mechanical troubleshooting techniques. Add the credit recommended for DTG3 in exhibit NER-DTG-001; and Dentalman (E-3) in exhibit NER-DN-001 (10/82).

Recommendation, DTR1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity and electronic circuits, 2 in electrical troubleshooting techniques, 2 in mechanical troubleshooting techniques, 2 in dental equipment maintenance and repair, and 3 in personnel supervision. Add the credit recommended for DTG3 in exhibit NER-DTG-001; and Dentalman (E-3) in exhibit NER-DN-001 (10/82).

Recommendation, DTRC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity and electronic circuits, 2 in electrical troubleshooting techniques, 2 in mechanical troubleshooting techniques, 2 in dental equipment maintenance and repair, 3 in personnel supervision, and 2 in electrical and plumbing codes and standards. In the upper-division baccalaureate category, 3 semester hours in personnel management and 3 in human relations. Add the credit recommended for DTG3 in exhibit NER-DTG-001; and Dentalman (E-3) in exhibit NER-DN-001 (10/82).

NER-EA-002

ENGINEERING AID
EA3
EA2
EA1
EAC
EACS

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *EA3:* Engineering Aid, Third Class (E-4). *EA2:* Engineering Aid, Second Class (E-5). *EA1:* Engineering Aid, First Class (E-6). *EAC:* Chief Engineering Aid (E-7). *EACS:* Senior Chief Engineering Aid (E-8). *CUCM:* Master Chief Constructionman (E-9).

Description

Summary: Plans, supervises, and performs required tasks in construction surveying, drafting, planning and estimating, and quality control. *EA3:* Traces and revises drawings; prepares charts and sketches; places construction stakes and other references; uses standard surveying instruments; performs basic calculations of regular areas and volumes; performs simple tests on soils and concrete materials. *EA2:* Able to perform the duties required for EA3; draws mechanical layouts of service and building utilities and of distribution and collection systems from existing plans, sketches, or specifications; prepares material requisitions; records survey field notes; inspects the placing of concrete and tests its compressive and flexural strength; computes irregular areas; performs stadia and hydrographic surveying; tests for soil compaction field density, Atterberg limits, and aggregate soundness. *EA1:* Able to perform the duties required for EA2; checks layouts and drawings for accuracy and conformity to standards; prepares progress reports; organizes work assignments; prepares equipment, manpower, and material estimates; performs maintenance and construction inspections; performs Marshall stability test; prepares concrete, flexible pavement, and soil stabilization design mixes; as party chief, establishes vertical and horizontal control and directs topographic, boundary, and engineering surveys. *EAC:* Able to perform the duties required for EA1; supervises and coordinates all construction tasks assigned to a unit; provides technical advice and assistance on plans and specifications and on construction and maintenance techniques; implements a program of maintenance and cost control. *EACS:* Able to perform the duties required for EAC; prepares local directives and instructions for attaining organizational objectives and improving operations; establishes and implements a program to ensure maximum use of personnel; determines requirements for advance planning; coordinates equipment assignment among projects; is capable of directing the operation and maintenance of all utilities and the repair, alteration and maintenance of all facilities under the cognizance of the public works department; directs transportation and equipment services to all activities and maintains all equipment used for that purpose; establishes a maintenance and cost control program.

Recommendation, EA3

In the vocational certificate category, 3 semester hours in introduction to construction, 3 in drafting, 2 in surveying, and 2 in materials testing. In the lower-division baccalaureate/associate degree category, 1 semester hour in construction technology, 2 in drafting, and 1 in surveying (3/86).

Recommendation, EA2

In the vocational certificate category, 3 semester hours in introduction to construction, 3 in construction methods, 4 in materials testing, 4 in drafting, and 3 in technical mathematics. In the lower-division baccalaureate/associate degree category, 3 semester hours in surveying, 3 in trigonometry, 3 in drafting, and 1 in construction technology (3/86).

Recommendation, EA1

In the vocational certificate category, 6 semester hours in materials testing, 4 in drafting, 3 in introduction to construction, 3 in construction methods, 3 in earthwork computation, and 3 in technical mathematics. In the lower-division baccalaureate/associate degree category, 3 semester hours in surveying, 3 in pavement design, 3 in trigonometry, 3 in drafting, 2 in personnel supervision, and 1 in construction technology (3/86).

Recommendation, EAC

In the vocational certificate category, 6 semester hours in materials testing, 4 in drafting, 3 in introduction to construction, 3 in construction methods, 3 in earthwork computation, and 3 in technical mathematics. In the lower-division baccalaureate/associate degree category, 3 semester hours for field experience in construction management, 3 in surveying, 3 in pavement design, 3 in trigonometry, 3 in personnel supervision, 3 in construction technology, and 3 in drafting (3/86).

Recommendation, EACS

In the vocational certificate category, 6 semester hours in materials testing, 4 in drafting, 3 in introduction to construction, 3 in construction methods, 3 in earthwork computation, and 3 in technical mathematics. In the lower-division baccalaureate/associate degree category, 6 semester hours for field experience in construction management, 3 in surveying, 3 in pavement design, 3 in trigonometry, 3 in personnel supervision, 3 in construction technology, 3 in drafting, and 2 in technical writing. In the upper-division baccalaureate category, 3 semester hours for a practicum in management and 3 in management problems (3/86).

NER-EA-003

ENGINEERING AID
EA3
EA2
EA1
EAC
EACS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *EA3:* Engineering Aid, Third Class (E-4). *EA2:* Engineering Aid, Second Class (E-5). *EA1:* Engineering Aid, First Class (E-6). *EAC:* Chief Engineering Aid (E-7). *EACS:* Senior Chief Engineering Aid (E-8). *CUCM:* Master Chief Constructionman (E-9).

Description

Summary: Plans, supervises, and performs tasks required in construction surveying, drafting, planning and estimating, and quality control. *EA3:* Traces and revises drawings; prepares construction drawings and architectural layouts; performs field sanitation procedures; places construction stakes and other references; uses standard surveying instruments; performs basic calculations of regular areas and volumes; performs simple tests on soils and concrete materials. *EA2:* Able to perform the duties required for EA3; draws detailed electrical and mechanical drawings of service utilities and distribution/collection systems; draws detailed civil, architectural, and structural drawings; prepares materials requisitions; records survey field notes; inspects the placing of concrete and tests its compressive and flexural strength; computes irregular areas; prepares topographic maps; conducts tests and performs field adjustments on survey equipment; tests for soil compaction field destiny, Atterberg limits, and aggregate soundness. *EA1:* Able to perform the duties required for EA2; checks layouts and drawings for accuracy and conformity to standards; prepares progress reports; organizes work assignments; prepares equipment, manpower, and material estimates; performs maintenance and construction inspections; supervises lab and field soils aggregate tests; controls environmental pollution at construction sites, work areas, and shops; prepares concrete, flexible pavement, and soil stabilization design mixes. *EAC:* Able to perform the duties required for EA1; supervises and coordinates all construction tasks assigned to a unit; provides technical advice and assistance on plans and specifications and on construction and maintenance techniques; implements a program of maintenance and cost control; manages environmental pollution control programs at construction sites, work areas, and shops. *EACS:* Able to perform the duties required for EAC; prepares local directives and instructions for attaining organizational objectives and improving operations; establishes and implements a program to ensure maximum use of personnel; determines requirements for advance planning; coordinates equipment assignment among projects; is capable of directing the operation and maintenance of all utilities and the repair, alteration, and maintenance of all facilities under the cognizance of the public works department; directs transportation and equipment services to all activities and maintains all equipment used for that purpose; establishes a maintenance and cost control program; serves as liaison between command and customer on assigned projects.

Recommendation, EA3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in drafting, 2 in materials testing, and 1 in surveying (6/91).

Recommendation, EA2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in drafting, 3 in materials testing, 3 in surveying, 3 in construction methods, and 1 in personnel supervision (6/91).

Recommendation, EA1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in drafting, 3 in materials testing, 3 in surveying, 3 in construction methods, 3 in earthwork computation, 3 in pavement design, 2 in personnel supervision, and 2 in construction management (6/91).

Recommendation, EAC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in drafting, 3 in materials testing, 3 in surveying, 3 in construction methods, 3 in earthwork computation, 3 in pavement design, 3 in personnel supervision, 3 in construction management, and 2 in records and information management (6/91).

Recommendation, EACS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 4 in drafting, 3 in materials testing, 3 in surveying, 3 in construction methods, 3 in earthwork computation, 3 in pavement design, 3 in personnel supervision, 3 in construction management, 2 in records and information management, and 2 in technical writing. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 for field experience in construction management, and 3 in organizational management (6/91).

NER-EM-002

ELECTRICIAN'S MATE
EM3
EM2
EM1
EMC
EMCS

Exhibit Dates: 1/90–4/96.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *EM3:* Electrician's Mate, Third Class (E-4). *EM2:* Electrician's Mate, Second Class (E-5). *EM1:* Electrician's Mate, First Class (E-6). *EMC:* Chief Electrician's Mate (E-7). *EMCS:* Senior Chief Electrician's Mate (E-8). *EMCM:* Master Chief Electrician's Mate (E-9).

Description

Summary: Operates and maintains power and lighting circuits, electrical fixtures, film projectors, motors, generators, controllers, switchboards, voltage and frequency regulators, and other test equipment; tests for short circuits; rebuilds electrical equipment. *EM3:* Operates standard test and metering equipment, including multimeter, voltmeter, ammeter, ohmmeter, oscilloscope, stroboscope, voltage tester, wattmeter, and vacuum tube voltmeter; makes standard wire splices; detects and locates ground, open circuits, and short circuits in lighting and power circuits; solders electrical connections; examines motors and generators for conditions and needed maintenance; operates AC and DC generators; replaces bearings in generators and motors; repairs portable electrical tools; prepares, activates, and services storage batteries; troubleshoots and repairs small boat electrical systems; tests and maintains signal lights, search lights, and beacons; maintains electrical cooking equipment; computes resistance, current, voltage, phase angle, and impedance; prepares diesel generators for operation; reads and interprets schematic diagrams and electrical blueprints. *EM2:* Able to perform the duties required for EM3; operates and uses signal generator; operates instrument transformer; conducts bench tests on motor and generator windings; operates and maintains AC and DC ship propulsion equipment; installs new power and lighting circuits; connects shore power to main distribution board of ship; inspects and maintains battery charges, cathodic protective units, air conditioning control circuits, air compressor control circuits, hoist/winch systems, ship's fueling continuity circuits, solid state logic components, and helicopter starting units; maintains equipment calibration schedules; completes planned maintenance reports; inventories installed equipment and spare parts support; may supervise up to four Third Class Electrician's Mates. *EM1:* Able to perform the duties required for EM2; conducts bench tests on electric governors; checks logic on solid state electrohydraulic controllers; inspects ship's service and emergency switchboard equipment when power is connected; estimates extent of casualty damage to equipment; removes, tests, and replaces defective components in automatic degaussing control panels; determines type and value of acceptable substitute components; checks electrical operating logs and maintenance records; prepares weekly maintenance schedules; instructs personnel in operation, maintenance, and casualty control; may supervise up to nine Electrician's Mates. *EMC:* Able to perform the duties required for EM1; tests, inspects, and directs repairs of power and lighting equipment, static magnetic amplifier equipment, voltage and speed regulators, and static inverters; maintains files; direct operation and control of electrical distribution and interior communication system and circuits; plans, organizes, and directs the operation and maintenance of electrical systems; estimates time, materials, and labor required for repair of electrical systems and equipment; verifies compliance with quality assurance procedures; performs casualty analysis; stands engineering watch; assigns personnel to watch stations; supervises training in operation, maintenance, and casualty control; reviews efficiency reports of subordinates; prepares ship trial reports. *EMCS:* Able to perform the duties required for EMC; advises on preparation for administrative, material, and readiness inspections, the opening and inspection of equipment, and preparation of work requests; provides information and advises on utilization, capabilities, reliability, and operations; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel; administers a long-range planned maintenance program; reviews and submits reports; initiates correspondence and directives; evaluates operational deficiencies and test results; reviews ship trial data; organizes and schedules training programs; evaluates effectiveness of subordinates.

Recommendation, EM3

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronics laboratory, 3 in electrical systems troubleshooting and maintenance, 2 in AC/DC machines, and 1 in basic electronics (12/89).

Recommendation, EM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in electrical systems troubleshooting and maintenance, 3 in AC/DC machines, 2 in basic electronics, and 2 in personnel supervision (12/89).

Recommendation, EM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in electrical systems troubleshooting and maintenance, 4 in AC/DC machines, 2 in basic electronics, and 3 in personnel supervision (12/89).

Recommendation, EMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in electrical systems troubleshooting and maintenance, 4 in AC/DC machines, 2 in basic electronics, 3 in personnel supervision, and 3 in maintenance management (12/89).

Recommendation, EMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in electrical systems troubleshooting and maintenance, 4 in AC/DC machines, 2 in basic electronics, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

NER-EM-004

ELECTRICIAN'S MATE, MASTER CHIEF
EMCM

Exhibit Dates: 1/90–4/96.

Occupational Field: 3 (Marine Engineering).

Career Pattern

May progress to EMCM, Master Chief Electrician's Mate (E-9) from EMCS, Senior Chief Electrician's Mate (E-8), or ICCS, Senior Chief Interior Communications Electrician (E-8).

Description

Able to perform the duties required for either EMCS (Senior Chief Electrician's Mate) or ICCS (Senior Chief Interior Communications Electrician); advises on new developments and new technical information concerning capabilities, limitations, and employment of interior communications and electrical equipment; plans, organizes, and implements activities; plans and initiates actions to satisfy personnel, equipment, and material requirements and forecasts future requirements; schedules major maintenance and repair; develops procedures and supervises practices and techniques for correction of equipment and system malfunctions; supervises inspections and surveys of equipment; evaluates defective and worn electrical equipment items in terms of feasibility of repair or replacement; develops operating budgets and monitors expenditures; prepares staff studies, establishes goals, objectives, and priorities; reviews efficiency of subordinates; prepares policy statements and directives.

Recommendation

In the lower-division baccalaureate/associate degree category, if progressed to EMCM from ICCS (Interior Communications Electrician, Senior Chief), use the recommendation for ICCS in exhibit NER-IC-001; if progressed from EMCS, use the recommendation in exhibit NER-EM-002. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-EM-005

ELECTRICIAN'S MATE
EM3
EM2
EM1
EMC
EMCS

Exhibit Dates: 5/96–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *EM3:* Electrician's Mate, Third Class (E-4). *EM2:* Electrician's Mate, Second Class (E-5). *EM1:* Electrician's Mate, First Class (E-6). *EMC:* Chief Electrician's Mate (E-7). *EMCS:* Senior Chief Electrician's Mate (E-8). *EMCM:* Master Chief Electrician's Mate (E-9).

Description

Summary: Operates and maintains power and lighting circuits, electrical fixtures, film projectors, motors, generators, controllers, switchboards, voltage and frequency regulators, and other test equipment; tests for short circuits; rebuilds electrical equipment. *EM3:* Operates standard test and metering equipment, including multimeter, voltmeter, ammeter, ohmmeter, oscilloscope, stroboscope, voltage tester, wattmeter, and vacuum tube voltmeter; makes standard wire splices; detects and locates ground, open circuits, and short circuits in lighting and power circuits; solders electrical connections; examines motors and generators for conditions and needed maintenance; operates AC and DC generators; replaces bearings in generators and motors; repairs portable electrical tools; prepares, activates, and services storage batteries; troubleshoots and repairs small boat electrical systems; tests and maintains signal lights, search lights, and beacons; maintains electrical cooking equipment; computes resistance, current, voltage, phase angle, and impedance; prepares diesel generators for operation; reads and interprets schematic diagrams and electrical blueprints; acts as lead worker for subordinates. *EM2:* Able to perform the duties required for EM3; operates and uses signal generator; operates instrument transformer; conducts bench tests on motor and generator windings; operates and maintains AC and DC ship propulsion equipment; installs new power and lighting circuits; connects shore power to main distribution board of ship; inspects and maintains battery charges, cathodic protective units, air conditioning control circuits, air compressor control circuits, hoist/winch systems, ship's fueling continuity circuits, solid state logic components, and helicopter starting units; maintains equipment calibration schedules; completes planned maintenance reports; inventories installed equipment and spare parts support; may supervise up to four Third Class Electrician's Mates. *EM1:* Able to perform the duties required for EM2; conducts bench tests on electric governors; checks logic on solid state electrohydraulic controllers; inspects ship's service and emergency switchboard equipment when power is connected; estimates extent of casualty damage to equipment; removes, tests, and replaces defective components in automatic degaussing control panels; determines type and value of acceptable substitute components; checks electrical operating logs and maintenance records; prepares weekly maintenance schedules; instructs personnel in operation, maintenance, and casualty control; may supervise up to nine Electrician's Mates. *EMC:* Able to perform the duties required for EM1; tests, inspects, and directs repairs of power and lighting equipment, static magnetic amplifier equipment, voltage and speed regulators, and static inverters; maintains files; direct operation and control of electrical distribution and interior communication system and circuits; plans, organizes, and directs the operation and maintenance of electrical systems; estimates time, materials, and labor required for repair of electrical systems and equipment; verifies compliance with quality assurance procedures; performs casualty analysis; stands engineering watch; assigns personnel to watch stations; supervises training in operation, maintenance, and casualty control; reviews efficiency reports of subordinates; prepares ship trial reports. *EMCS:* Able to perform the duties required for EMC; advises on preparation for administrative, material, and readiness inspections, the opening and inspection of equipment, and preparation of work requests; provides information and advises on utilization, capabilities, reliability, and operations; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel; administers a long-range planned maintenance program; reviews and submits reports; initiates correspondence and directives; evaluates operational deficiencies and test results; reviews ship trial data; organizes and schedules training programs; evaluates effectiveness of subordinates.

Recommendation, EM3

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electronics laboratory, 5 in electrical systems troubleshooting and maintenance, 1 in basic electronics, and 1 in personnel supervision (5/96).

Recommendation, EM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 6 in electrical systems troubleshooting and maintenance, 2 in basic electronics, and 2 in personnel supervision (5/96).

Recommendation, EM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 7 in electrical systems troubleshooting and maintenance, 2 in basic electronics, and 3 in personnel supervision (5/96).

Recommendation, EMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 7 in electrical systems troubleshooting and maintenance, 2 in basic electronics, 3 in personnel supervision, and 3 in maintenance management (5/96).

Recommendation, EMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 7 in electrical systems troubleshooting and maintenance, 2 in basic electronics, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (5/96).

NER-EM-006

ELECTRICIAN'S MATE, MASTER CHIEF
EMCM

Exhibit Dates: 5/96–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

May progress to EMCM, Master Chief Electrician's Mate (E-9) from EMCS, Senior Chief Electrician's Mate (E-8), or ICCS, Senior Chief Interior Communications Electrician (E-8).

Description

Able to perform the duties required for either EMCS (Senior Chief Electrician's Mate) or ICCS (Senior Chief Interior Communications Electrician); advises on new developments and new technical information concerning capabilities, limitations, and employment of interior communications and electrical equipment; plans, organizes, and implements activities; plans and initiates actions to satisfy personnel, equipment, and material requirements and forecasts future requirements; schedules major maintenance and repair; develops procedures and supervises practices and techniques for correction of equipment and system malfunctions; supervises inspections and surveys of equipment; evaluates defective and worn electrical equipment items in terms of feasibility of repair or replacement; develops operating budgets and monitors expenditures; prepares staff studies, establishes goals, objectives, and priorities; reviews efficiency of subordinates; prepares policy statements and directives.

Recommendation

In the lower-division baccalaureate/associate degree category, if progressed to EMCM from ICCS (Interior Communications Electrician, Senior Chief), use the recommendation for ICCS in exhibit NER-IC-001; if progressed from EMCS, use the recommendation in exhibit NER-EM-006. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (5/96).

NER-EN-002

ENGINEMAN
EN3
EN2
EN1
ENC
ENCS
ENCM

Exhibit Dates: 1/90–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *EN3:* Engineman, Third Class (E-4). *EN2:* Engineman, Second Class (E-5). *EN1:* Engineman, First Class (E-6). *ENC:* Chief Engineman (E-7). *ENCS:* Senior Chief Engineman (E-8). *ENCM:* Master Chief Engineman (E-9).

Description

Summary: Operates, repairs, and performs maintenance on internal combustion engines, main propulsion machinery, refrigeration and air conditioning equipment, gas turbine engines, and shipboard auxiliary equipment; stands watch on auxiliary boilers. *EN3:* Aligns and operates drain systems, stripping systems, machinery cooling water systems, oil systems, and purifier systems; aligns steam systems; operates pumps; aligns, operates, and secures internal combustion engines, steam distilling plants, compressed air systems, refrigeration and air conditioning systems; records pressure and temperature readings on operating equipment; conducts tests on lubricating oil and distillate fuels; operates and maintains auxiliary boilers; maintains tools; overhauls valves; performs preventive maintenance on auxiliary equipment, main propulsion equipment, and on small craft clutches, transmissions, drive shafts, and packing glands; tests electrohydraulic steering systems; inspects for leaks in reduction gears and thrust bearings; installs or removes and replaces flange shields on piping systems; fabricates and fits tubing and flexible hose assemblies; monitors electrical charging and regulating systems; operates and maintains hydraulic equipment; controls or minimizes the effects of oil and fuel spills; completes maintenance data system forms; uses blueprints, drawings, and manuals; tests boiler water and feed water. *EN2:* Able to perform the duties required for EN3; operates lube oil service, fill and storage systems, and steam reducing stations; performs prestart inspections; tests evaporators and condensers for leaks; conducts feed tests and treatment on distilling plants; aligns pump driving units; overhauls air compressors, internal combustion engines, pumps, refrigeration and air conditioning compressors, small craft clutches, transmissions and drive shafts; repairs valves and packing glands; tests and recharges refrigeration and air conditioning systems; tests and repairs piping systems; tests, cleans, inspects, and repairs or replaces heat exchangers; troubleshoots and repairs auxiliary equipment, internal combustion engines, and distilling plants; uses halide torch to test for leaks on refrigeration and air conditioning equipment; adjusts valves, injectors, control racks, governor, and governor control linkages on diesel engines; checks oil clearance in bearings; disassembles, cleans, repairs, assembles, tests, and replaces fuel nozzles; inspects and repairs lube oil and fuel oil purifiers; inspects metal surfaces for cracks or defects by the dye penetrant and magnaflux methods; inspects, adjusts and test-runs diesel and gasoline engines; lubricates steering gear; operates and maintains vertical conveyors; operates and troubleshoots internal combustion engine blowers and turbochargers; operates an engine lathe; adjusts and repairs refrigeration automatic controls. *EN1:* Able to perform the duties required for EN2; analyzes malfunctions of main propulsion equipment and takes corrective action; repairs and maintains mechanical and hydraulic governors, overspeed trips, and load limiting governors; checks main engine bearing readings; inspects and checks clearances on blowers and turbochargers; measures main propulsion shaft thrust clearance; conducts quality assurance inspections; supervises maintenance activities; prepares planned maintenance schedules. *ENC:* Able to perform the duties required for EN1; conducts diesel engine postoverhaul checkout; checks main reduction gears for backlash and alignment; measures crankshaft deflection; uses trend analysis data to determine changes in diesel engines; supervises personnel in the operation, maintenance, and repair of engine room and auxiliary equipment; analyzes results of oil tests. *ENCS:* Able to perform the duties required for ENC; monitors environmental pollution control programs; administers long-range planned maintenance programs; plans and schedules work loads; writes correspondence, directives, and instructions. *ENCM:* Able to perform the duties required for ENCS; reviews overhaul work package; monitors all ship-to-shop work and maintenance progress reports; establishes goals, objectives, and priorities; prepares staff studies; develops operating budgets and monitors expenditures; forecasts future requirements.

Recommendation, EN3

In the lower-division baccalaureate/associate degree category, 10 semester hours in engine maintenance and repair, 3 in maintenance technology, and 1 in blueprint reading (10/87).

Recommendation, EN2

In the lower-division baccalaureate/associate degree category, 12 semester hours in engine maintenance and repair, 3 in maintenance technology, 1 in blueprint reading, and 1 in record keeping; if assigned to gas turbine propulsion systems, 1-3 semester hours in gas turbine technology on the basis of institutional evaluation (10/87).

Recommendation, EN1

In the lower-division baccalaureate/associate degree category, 15 semester hours in engine maintenance and repair, 6 in maintenance technology, 1 in blueprint reading, 2 in record keeping, 2 in maintenance management, and 2 in personnel supervision; if assigned to gas turbine propulsion systems, 1-3 semester hours in gas turbine technology on the basis of institutional evaluation (10/87).

Recommendation, ENC

In the lower-division baccalaureate/associate degree category, 15 semester hours in engine maintenance and repair, 6 in maintenance technology, 1 in blueprint reading, 2 in record keeping, 3 in maintenance management, and 3 in personnel supervision; if assigned to gas turbine propulsion systems; 1-3 semester hours in gas turbine technology on the basis of institutional evaluation (10/87).

Recommendation, ENCS

In the lower-division baccalaureate/associate degree category, 15 semester hours in engine maintenance and repair, 6 in maintenance technology, 1 in blueprint reading, 2 in record keeping, 3 in maintenance management, and 3 in personnel supervision; if assigned to gas turbine propulsion systems; 1-3 semester hours in gas turbine technology on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (10/87).

Recommendation, ENCM

In the lower-division baccalaureate/associate degree category, 15 semester hours in engine maintenance and repair, 6 in maintenance technology, 1 in blueprint reading, 2 in record keeping, 3 in maintenance management, and 3 in personnel supervision; if assigned to gas turbine propulsion systems; 1-3 semester hours in gas turbine technology on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (10/87).

NER-EO-001

EQUIPMENT OPERATOR
EO3
EO2
EO1
EOC
EOCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *EO3:* Equipment Operator, Third Class (E-4). *EO2:* Equipment Operator, Second Class (E-5). *EO1:* Equipment Operator, First Class (E-6). *EOC:* Chief Equipment Operator (E-7). *EOCS:* Senior Chief Equipment Operator (E-8). *EQCM:* Master Chief Equipmentman (E-9).

Description

Summary: Operates automotive, material-handling, weight lifting, and construction equipment involved in earth moving, road building, quarrying, asphalt batching and paving, concrete paving, and construction work. *EO3:* Able to perform the duties required for CN (Constructionman); reads workshop drawings and sketches; reads grade stake markings; computes working loads for lines and wire rope; uses slings, spreaders, cargo nets, and hooks; determines optimum working distances for construction equipment with Option of scrapers; changes attachments and adapts cable/hydraulic assemblies on tractors (wheeled and crawler) with front and rear mounted and towed attachments; maintains, dismounts, repairs, and mounts tires; operates and performs operator maintenance on portable rotary rock drill, self-propelled compaction equipment, wheel and crawler tractors, wheel and crawler front-end loaders, warehouse and rough-terrain forklifts up to 6,000 pounds capacity, passenger-carrying vehicles, and trucks through five-ton including truck-tractor with semitrailer. *EO2:* Able to perform the duties required for EO3; works from construction drawings and specifications; draws simple shop drawings and sketches; maintains records and logs including time sheets; prepares requisitions; changes attachments and adapts cable/hydraulic assemblies on multipurpose excavators and cranes (crawler), up to and including three-cubic-yard for clamshell, dragline, shovel-front, backhoe, pile driver, and hooklock; operates and performs operator maintenance on scrapers, cranes, pile drivers, rock drills, asphalt pavers, soil stabilization mixers, and rough-terrain forklifts, up to and including those with 18,000-pound capacity; maintains asphalt surfaces. *EO1:* Able to perform the duties required for EO2; prepares as-built drawings, work progress reports, and material usage data; implements on-the-job training; directs crews in excavating, paving, grading, hauling, and materials-handling operations; makes work assignments; uses Critical Path Method schedules; is a quarry operator and construction inspector; operates and performs operator maintenance on asphalt and concrete batch plants; computes volume of embankment sections; estimates manpower, material, and equipment needs from drawings and specifications; carries out procedures to limit or minimize the adverse effects of oil and fuel spills and of fuel combustion on air quality. *EOC:* Able to perform the duties required for EO1; drafts letters, reports, and instructions; coordinates and supervises the work performed by unit personnel; provides technical advice on plans and specifications and on equipment operation, construction, and maintenance techniques; implements maintenance and cost control programs; prepares and maintains project progress charts; organizes and controls the site deployment of materials and equipment. *EOCS:* Able to perform the duties required for EOC; provides information and advice on the capabilities, utilization, and operations in own area of responsibility; prepares correspondence; prepares local directives and instructions for attaining organizational objectives and improving operations; establishes and implements a program for assigning and evaluating personnel; coordinates the assignment of equipment among various projects according to priorities; administers construction force tool inventory and inspection program; prepares and maintains visual status boards; directs the repair, alteration, and maintenance of all facilities under the cognizance of public works department; establishes a maintenance and cost control program; coordinates and evaluates labor reporting, material and equipment usage, and maintenance data and prepares related reports; organizes, schedules, and evaluates training programs.

Recommendation, EO3

In the vocational certificate category, 10 semester hours in construction equipment operation, 3 in introduction to construction equipment, and 2 in mechanical maintenance. In the lower-division baccalaureate/associate degree category, 2 semester hours in construction equipment operation and 1 in mechanical maintenance (1/77).

Recommendation, EO2

In the vocational certificate category, 20 semester hours in construction equipment operation, 3 in introduction to construction equipment, and 3 in mechanical maintenance. In the lower-division baccalaureate/associate degree category, 4 semester hours in construction equipment operation and 2 in mechanical maintenance (1/77).

Recommendation, EO1

In the vocational certificate category, 30 semester hours in construction equipment operation, 3 in introduction to construction equipment, and 3 in mechanical maintenance. In the lower-division baccalaureate/associate degree category, 6 semester hours in construction equipment operation, 2 in operations management, 2 in personnel supervision, and 2 in mechanical maintenance (1/77).

Recommendation, EOC

In the vocational certificate category, 30 semester hours in construction equipment operation, 3 in introduction to construction equipment, and 3 in mechanical maintenance. In the lower-division baccalaureate/associate degree category, 6 semester hours in construction equipment operation, 3 in operations management, 3 in personnel supervision, and 2 in mechanical maintenance (1/77).

Recommendation, EOCS

In the vocational certificate category, 30 semester hours in construction equipment operation, 3 in introduction to construction equipment, and 3 in mechanical maintenance. In the lower-division baccalaureate/associate degree category, 6 semester hours in construction equipment operation, 3 in operation planning, 3 in operations management, 3 for field experience in management, 3 in personnel supervision, and 2 in mechanical maintenance. In the upper-division baccalaureate category, 3 semester hours in operations/construction management and 3 in human relations (1/77).

NER-EO-002

EQUIPMENT OPERATOR
EO3
EO2
EO1
EOC
EOCS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *EO3:* Equipment Operator, Third Class (E-4). *EO2:* Equipment Operator, Second Class (E-5). *EO1:* Equipment Operator, First Class (E-6). *EOC:* Chief Equipment Operator (E-7). *EOCS:* Senior Chief Equipment Operator (E-8). *EQCM:* Master Chief Equipmentman (E-9).

Description

Summary: Operates automotive, material-handling, weight lifting and construction equipment involved in earth moving, road building, quarrying, asphalt batching and paving, concrete paving, and construction work. *EO3:* Able to perform the duties required for CN (Constructionman); reads workshop drawings and sketches; reads grade stake markings; computes working loads for lines and wire rope; uses slings, spreaders, cargo nets, and hooks; determines optimum working distances for construction equipment with the exception of scrapers; changes attachments and adapts cable/hydraulic assemblies on tractors (wheeled and crawler) with front and rear mounted and towed attachments; maintains, dismounts, repairs, and mounts tires; operates and performs operator maintenance on portable rotary rock drill, self-propelled compaction equipment, wheel and crawler tractors, wheel and crawler front-end loaders, warehouse and rough-terrain forklifts up to 6,000 pounds capacity, passenger-carrying vehicles, and trucks through five-ton, including truck-tractor with semitrailer. *EO2:* Able to perform the duties required for EO3; works from construction drawings and specifications; draws simple shop drawings and sketches; maintains records and logs including time sheets; prepares requisitions; changes attachments and adapts cable/hydraulic assemblies on multipurpose excavators and cranes (crawler), up to and including three-cubic-yard for clamshell, dragline, shovel-front, backhoe, pile driver, and hooklock; operates and performs operator maintenance on scrapers, cranes, pile drivers, rock drills, asphalt pavers, soil stabilization mixers, and rough-terrain forklifts up to and including those with 18,000-pound capacity; maintains asphalt surfaces. *EO1:* Able to perform the duties required for EO2; prepares as-built drawings, work progress reports, and material usage data; implements on-the-job training; directs crews in excavating, paving, grading, hauling, and materials-handling operations; makes work assignments; uses Critical Path Method schedules; is a quarry operator and construction inspector; operates and performs operator maintenance on asphalt and concrete batch plants; computes volume of embankment sections; estimates manpower, material, and equipment needs from drawings and specifications; carries out procedures to limit or minimize the adverse effects of oil and fuel spills and of fuel combustion on air quality. *EOC:* Able to perform the duties required for EO1; drafts letters, reports, and instructions; coordinates and supervises the work performed by unit personnel; provides technical advice on plans and specifications and on equipment operation, construction, and maintenance techniques; implements maintenance and cost control programs; prepares and maintains project progress charts; organizes and controls the site deployment of materials and equipment. *EOCS:* Able to perform the duties required for EOC; provides information and advice on the capabilities, utilization, and operations in own area of responsibility; prepares correspondence; prepares local directives and instructions for attaining organizational objectives and improving operations; establishes and implements a program for assigning and evaluating personnel; coordinates the assignment of equipment among various projects according to priorities; administers construction force tool inventory and inspection program; prepares and maintains visual status boards; directs the repair, alteration, and maintenance of all facilities under the cognizance of public works department; establishes a maintenance and cost control program; coordinates and evaluates labor reporting, material and equipment usage, and maintenance data and prepares related reports; organizes, schedules, and evaluates training programs.

Recommendation, EO3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction equipment, 2 in mechanical maintenance, and 3 in construction equipment operation (6/91).

Recommendation, EO2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction equipment, 3 in mechanical maintenance, 4 in construction equipment operation, and 1 in personnel supervision (6/91).

Recommendation, EO1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction equipment, 3 in mechanical maintenance, 6 in construction equipment operation, 2 in personnel supervision, and 2 in maintenance management (6/91).

Recommendation, EOC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction equipment, 3 in mechanical maintenance, 6 in construction equipment operation, 3 in personnel supervision, 3 in maintenance management, and 2 in records and information management (6/91).

Recommendation, EOCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction equipment, 3 in mechanical maintenance, 6 in construction equipment operation, 3 in personnel supervision, 3 in maintenance management, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours in operations/construction management and 3 in organizational management (6/91).

NER-EQ-001

EQUIPMENTMAN, MASTER CHIEF
EQCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

May progress to EQCM, Master Chief Equipmentman (E-9), from either EOCS, Senior Chief Equipment Operator (E-8), or CMCS, Senior Chief Construction Mechanic (E-8). *EQCM:* Master Chief Equipmentman (E-9).

Description

Able to perform the duties required for Either EOCS (Senior Chief Equipment Operator) or CMCS (Senior Chief Construction Mechanic); forecasts future requirements and plans and initiates action to satisfy them; establishes goals and priorities; plans, organizes, implements, and controls work activities in compliance with policy statements and directives; reviews personnel, equipment, and material requirements; is responsible for the administration of a department or company; develops procedures for work improvement and simplification through organizational analysis; manages a contracts inspection branch; implements pollution control and energy conservation programs; develops operating budgets and monitors expenditures; assists in managing a public works department.

Recommendation

In the vocational certificate category, use the recommendation for either EO1 (Equipment Operator First Class) in exhibit NER-EO-001 or CMCS (Senior Chief Construction Mechanic) in exhibit NER-CM-001, as appropriate. In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of administration, 3 in construction contracts and agreements, and 3 in government budgeting procedures; add either the 20 semester hours for EOCS (Senior Chief Equipment Operator) in exhibit NER-EO-001 or the 22 semester hours for CMCS in exhibit NER-CM-001. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 in forecasting, and 3 for a practicum in management; add either the 6 semester hours for EOCS in exhibit NER-EO-001 or the 6 semester hours for CMCS in exhibit NER-CM-001, as appropriate (1/77).

NER-EQ-002

EQUIPMENTMAN, MASTER CHIEF
EQCM

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

May progress to EQCM, Master Chief Equipmentman (E-9), from either EOCS, Senior Chief Equipment Operator (E-8), or CMCS, Senior Chief Construction Mechanic (E-8). *EQCM:* Master Chief Equipmentman (E-9).

Description

Able to perform the duties required for either EOCS (Senior Chief Equipment Operator) or CMCS (Senior Chief Construction Mechanic); forecasts future requirements and plans and initiates action to satisfy them; establishes goals and priorities; plans, organizes, implements, and controls work activities in compliance with policy statements and directives; reviews personnel, equipment, and material requirements; is responsible for the administration of a department or company; develops procedures for work improvement and simplification through organizational analysis; manages a contracts inspection branch; implements pollution control and energy conservation programs; develops operating budgets and monitors expenditures; assists in managing a public works department.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in office administration, 3 in construction contracts and agreements, and 3 in government budgeting procedures; add the credit for either EOCS (Senior Chief Equipment Operator) in exhibit NER-EO-001 or NER-EO-002, or CMCS in exhibit NER-CM-001 or NER-CM-002, as appropriate. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, and 3 in operations management; add the credit for either EOCS in exhibit NER-EO-001 or NER-EO-002 or for CMCS in exhibit NER-CM-001 or NER-CM-002, as appropriate (6/91).

NER-ET-003

ELECTRONICS TECHNICIAN
ET3
ET2
ET1
ETC
ETCS
ETCM

Exhibit Dates: 1/90–2/96.

Occupational Field: 8 (Weapons Control).

Career Pattern

SN: Seaman (E-3). *ET3:* Electronics Technician, Third Class (E-4). *ET2:* Electronics Technician, Second Class (E-5). *ET1:* Electronics Technician, First Class (E-6). *ETC:* Chief Electronics Technician (E-7). *ETCS:* Senior Chief Electronics Technician (E-8). *ETCM:* Master Chief Electronics Technician (E-9).

Description

Summary: Performs maintenance on electronic equipment for surface ships and submarines, electronic air detection and tracking equipment, electronic recognition and identification equipment, aids to navigation, and electronic equipment and components used for communication, cryptography, and navigation; possesses a general working knowledge of electricity and electronics. *ET3:* Reads and interprets schematics and block diagrams; uses test equipment and hand tools; repairs electrical/electronic cables and connectors; localizes malfunctions and repairs or replaces faulty parts or subassemblies; aligns, adjusts, calibrates, and performs preventive maintenance on equipment; inventories tools and portable test equipment; completes maintenance data forms. *ET2:* Able to perform the duties required for ET3, maintains radar transmitting equipment, radar receiving equipment, radar identification equipment, and air navigation equipment; localizes malfunctions to systems, subsystems, circuits, and parts; inventories installed equipment; completes maintenance reports. *ET1:* Able to perform the duties required for ET2; diagnoses, isolates, aligns, adjusts, and calibrates electronic subsystems; monitors maintenance quality control; prepares weekly preventive maintenance schedules; maintains inventory of parts; reviews completed maintenance data forms; trains subordinates in the operation of tests on systems and subsystems. *ETC:* Able to perform the duties required for ET1; supervises the repair of electronic systems and subsystems; uses accounting procedures to maintain control of inventories, work flow, and work accomplished; estimates time and support required for repair of equipment; provides technical and supervisory liaison between work centers; implements and administers a maintenance and repair program; prepares quarterly preventive maintenance schedules. *ETCS:* Able to perform the duties required for ETC; evaluates operational test results against engineering design standards; reviews, prepares, and administers the electronic repair organization bill; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; organizes and schedules training programs and evaluates their effectiveness; administers a long-range planned maintenance program. *ETCM:* Able to perform the duties required for ETCS; plans, organizes, controls, directs, and evaluates personnel and equipment utilization; forecasts future requirements and reviews personnel, equipment, and material requirements; coordinates activities with other departments; develops operating budgets and monitors expenditures.

Recommendation, ET3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in digital principles, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 1 in electronic control systems, 1 in electronic communications, 1 in DC circuits, and 1 in AC circuits (12/89).

Recommendation, ET2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic elec-

tronics laboratory, 3 in digital principles, 1 in solid state electronics, 1 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in electronic control systems, 2 in electronic communications, 1 in DC circuits, 1 in AC circuits, and 2 in personnel supervision (12/89).

Recommendation, ET1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 2 in solid state electronics, 2 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in electronic control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, and 3 in personnel supervision (12/89).

Recommendation, ETC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 3 in solid state electronics, 2 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in electronic control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, 3 in personnel supervision, and 3 in maintenance management (12/89).

Recommendation, ETCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 3 in solid state electronics, 2 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in electronic control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester for field experience in management and 3 in management problems (12/89).

Recommendation, ETCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 3 in solid state electronics, 2 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in electronic control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-ET-004

Electronics Technician

ET3
ET2
ET1
ETC
ETCS
ETCM

Exhibit Dates: 3/96–Present.

Occupational Field: 8 (Weapons Control).

Career Pattern

SN: Seaman (E-3). *ET3:* Electronics Technician, Third Class (E-4). *ET2:* Electronics Technician, Second Class (E-5). *ET1:* Electronics Technician, First Class (E-6). *ETC:* Chief Electronics Technician (E-7). *ETCS:* Senior Chief Electronics Technician (E-8). *ETCM:* Master Chief Electronics Technician (E-9).

Description

Summary: Performs maintenance on electronic equipment for surface ships and submarines, electronic air detection and tracking equipment, electronic recognition and identification equipment, aids to navigation, and electronic equipment and components used for communication, cryptography, and navigation; possesses a general working knowledge of electricity and electronics. *ET3:* Reads and interprets schematics and block diagrams; uses test equipment and hand tools; repairs electrical/electronic cables and connectors; localizes malfunctions and repairs or replaces faulty parts or subassemblies; aligns, adjusts, calibrates, and performs preventive maintenance on equipment; inventories tools and portable test equipment; completes maintenance data forms. *ET2:* Able to perform the duties required for ET3; maintains radar transmitting equipment, radar receiving equipment, radar identification equipment, and air navigation equipment; localizes malfunctions to systems, subsystems, circuits, and parts; inventories installed equipment; completes maintenance reports. *ET1:* Able to perform the duties required for ET2; diagnoses, isolates, aligns, adjusts, and calibrates electronic subsystems; monitors maintenance quality control; prepares weekly preventive maintenance schedules; maintains inventory of parts; reviews completed maintenance data forms; trains subordinates in the operation of tests on systems and subsystems. *ETC:* Able to perform the duties required for ET1; supervises the repair of electronic systems and subsystems; uses accounting procedures to maintain control of inventories, work flow, and work accomplished; estimates time and support required for repair of equipment; provides technical and supervisory liaison between work centers; implements and administers a maintenance and repair program; prepares quarterly preventive maintenance schedules. *ETCS:* Able to perform the duties required for ETC; evaluates operational test results against engineering design standards; reviews, prepares, and administers the electronic repair organization bill; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; organizes and schedules training programs and evaluates their effectiveness; administers a long-range planned maintenance program. *ETCM:* Able to perform the duties required for ETCS; plans, organizes, controls, directs, and evaluates personnel and equipment utilization; forecasts future requirements and reviews personnel, equipment, and material requirements; coordinates activities with other departments; develops operating budgets and monitors expenditures.

Recommendation, ET3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in digital principles, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 1 in control systems, 1 in electronic communications, 1 in DC circuits, and 1 in AC circuits (3/96).

Recommendation, ET2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 1 in solid state electronics, 1 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in control systems, 2 in electronic communications, 1 in DC circuits, 1 in AC circuits, and 2 in personnel supervision (3/96).

Recommendation, ET1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 2 in solid state electronics, 1 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, and 3 in personnel supervision (3/96).

Recommendation, ETC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 2 in solid state electronics, 1 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, 3 in personnel supervision, and 3 in maintenance management (3/96).

Recommendation, ETCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 2 in solid state electronics, 1 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester for field experience in management and 3 in management problems (3/96).

Recommendation, ETCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 2 in solid state electronics, 1 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 2 in technical mathematics, 2 in control systems, 3 in electronic communications, 1 in DC circuits, 1 in AC circuits, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/96).

NER-EW-001

Electronics Warfare Technician

EW3
EW2
EW1
EWC
EWCS
EWCM

Exhibit Dates: 1/90–12/91.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). *EW3:* Electronics Warfare Technician, Third Class, (E-4). *EW2:* Electronics Warfare Technician, Second Class (E-5). *EW1:* Electronics Warfare Technician, First Class (E-6). *EWC:* Chief Electronics Warfare Technician (E-7). *EWCS:* Senior Chief Electronics Warfare Technician (E-8). *EWCM:* Master Chief Electronics Warfare Technician (E-9).

Description

Summary: Operates, repairs, and performs maintenance on electronic warfare equipment; analyzes and evaluates received signals. *EW3:* Operates electronic signal analyzing equipment; operates electronic direction-finding equipment; maintains radio frequency transmission systems; performs maintenance on electronic warfare equipment; reads and interprets electronic block diagrams. *EW2:* Able to perform the duties required for EW3; tests analog and digital circuits, servomechanisms, and digital logic and interconnecting circuits; operates general purpose test equipment, including power meters, oscilloscopes, signal generators, counters, pulse generators, and time/frequency domain reflectometers; reads and interprets electrical/electronic schematics and blueprints for maintenance and modifications; inventories installed equipment and spare part support. *EW1:* Able to perform the duties required for EW2; analyzes electronic system faults and initiates corrective action; analyzes test equipment defects and determines corrective action; trains electronics warfare operators in signal analysis and equipment operation; prepares weekly preventive maintenance schedules. *EWC:* Able to perform the duties required for EW1; tests and evaluates newly installed or repaired electronic warfare equipment; conducts electronic interference surveys and recommends corrective action; supervises an operational training program for electronic warfare personnel; supervises and trains personnel in maintenance procedures; coordinates test equipment calibration requirements and procedures; writes messages and prepares reports; prepares quarterly maintenance schedules. *EWCS:* Able to perform the duties required for EWC; administers a long-range planned maintenance program; coordinates the collection, preparation, and dissemination of technical information pertaining to test, maintenance, and repair of electronic warfare systems; prepares directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; organizes and schedules training programs. *EWCM:* Able to perform the duties required for EWCS; plans, organizes, and implements electronic warfare activities; forecasts future requirements; develops operating budgets and monitors expenditures.

Recommendation, EW3

In the vocational certificate category, 6 semester hours in systems maintenance. In the lower-division baccalaureate/associate degree category, 2 semester hours in systems maintenance, 3 in basic electronics, 5 in circuit theory, 2 in applied mathematics,1 in digital electronics, and credit in troubleshooting techniques on the basis of institutional evaluation (12/78).

Recommendation, EW2

In the vocational certificate category, 8 semester hours in systems maintenance. In the lower-division baccalaureate/associate degree category, 3 semester hours in systems maintenance, 3 in basic electronics, 5 in circuit theory, 2 in applied mathematics, 2 in digital electronics, and credit in troubleshooting techniques on the basis of institutional evaluation (12/78).

Recommendation, EW1

In the vocational certificate category, 10 semester hours in systems maintenance. In the lower-division baccalaureate/associate degree category, 4 semester hours in systems maintenance, 3 in basic electronics, 5 in circuit theory, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 2 in personnel supervision, 2 in maintenance management, and credit in troubleshooting techniques on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours in circuit theory (12/78).

Recommendation, EWC

In the vocational certificate category, 10 semester hours in systems maintenance. In the lower-division baccalaureate/associate degree category, 4 semester hours in systems maintenance, 3 in basic electronics, 5 in circuit theory, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 3 in personnel supervision, 3 in maintenance management, 1 in record keeping,1 in report writing, and credit in troubleshooting techniques on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours in circuit theory (12/78).

Recommendation, EWCS

In the vocational certificate category, 10 semester hours in systems maintenance. In the lower-division baccalaureate/associate degree category, 4 semester hours in systems maintenance, 3 in basic electronics, 5 in circuit theory, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 3 in personnel supervision, 3 in maintenance management, 1 in record keeping, 1 in report writing, and credit in troubleshooting techniques on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours in circuit theory, 3 for field experience in management, and 3 in management problems (12/78).

Recommendation, EWCM

In the vocational certificate category, 10 semester hours in systems maintenance. In the lower-division baccalaureate/associate degree category, 4 semester hours in systems maintenance, 3 in basic electronics, 5 in circuit theory, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 3 in personnel supervision, 3 in maintenance management, 1 in record keeping, 1 in report writing, and credit in troubleshooting techniques on the basis of institutional evaluation. In the upper-division baccalaureate category, 6 semester hours in circuit theory, 6 for field experience in management, and 3 in management problems (12/78).

NER-EW-002

ELECTRONICS WARFARE TECHNICIAN
EW3
EW2
EW1
EWC
EWCS
EWCM

Exhibit Dates: 1/92–4/96.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). *EW3:* Electronics Warfare Technician, Third Class (E-4). *EW2:* Electronics Warfare Technician, Second Class (E-5). *EW1:* Electronics Warfare Technician, First Class (E-6). *EWC:* Chief Electronics Warfare Technician (E-7). *EWCS:* Senior Chief Electronics Warfare Technician (E-8). *EWCM:* Master Chief Electronics Warfare Technician (E-9).

Description

Summary: Operates, repairs, and performs maintenance on electronic warfare equipment; analyzes and evaluates received signals. *EW3:* Operates electronic signal analyzing equipment; operates electronic direction-finding equipment; maintains radio frequency transmission systems; performs maintenance on electronic warfare equipment; reads and interprets electronic block diagrams. If NEC is 1733, Electronic Warfare Systems Technician (AN/SLQ-32(V)2), performs corrective and preventive maintenance on electronic warfare support system; if NEC is 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), performs preventive and corrective maintenance on electronic warfare DECM system. *EW2:* Able to perform the duties required for EW3; tests analog and digital circuits, servomechanisms, and digital logic and interconnecting circuits; operates general purpose test equipment, including power meters, oscilloscopes, signal generators, counters, pulse generators, and time/frequency domain reflectometers; reads and interprets electrical/electronic schematics and blueprints for maintenance and modifications; inventories installed equipment and spare part support. *EW1:* Able to perform the duties required for EW2; analyzes electronic systems faults and initiates corrective action; analyzes test equipment defects and determines corrective action; trains electronics warfare operators in signal analysis and equipment operation; prepares weekly preventive maintenance schedules. *EWC:* Able to perform the duties required for EW1; tests and evaluates newly-installed or repaired electronic warfare equipment; conducts electronic interference surveys and recommends corrective action; supervises an operational training program for electronic warfare personnel; supervises and trains personnel in maintenance procedures; coordinates test equipment calibration requirements and procedures; writes messages and prepares reports; prepares quarterly maintenance schedules. *EWCS:* Able to perform the duties required for EWC; administers a long-range planned maintenance program; coordinates the collection, preparation, and dissemination of technical information pertaining to test, maintenance, and repair of electronic warfare systems; prepares directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; organizes and schedules training programs. *EWCM:* Able to perform the duties required for EWCS; plans, organizes, and implements electronic warfare activities; forecasts future requirements; develops operating budgets and monitors expenditures.

Recommendation, EW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 1 in digital principles, 1 in solid state electronics, 1 in computer systems and organization, 1 in control systems (electronic), and 1 in communications (electronic); if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2), or 1734, Electronic Warfare System Technician (SLQ-32(V)3), 3 semester hours in electronic systems troubleshooting and maintenance (5/92).

Recommendation, EW2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 2 in computer systems and organization, 2 in control systems (electronic), and 2 in communications (electronic); if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2), or 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), 3 semester hours in electronic systems troubleshooting and maintenance (5/92).

Recommendation, EW1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 2 in computer systems and organization, 2 in control systems (electronic), 2 in communications (electronic), 2 in personnel supervision, 2 in maintenance management, and 2 in records and information management; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2), or 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), 3 semester hours in electronic systems troubleshooting and maintenance (5/92).

Recommendation, EWC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 2 in computer systems and organization, 2 in control systems (electronic), 2 in communications (electronic), 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2), or 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), 3 semester hours in electronic systems troubleshooting and maintenance (5/92).

Recommendation, EWCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 2 in computer systems and organization, 2 in control systems (electronic), 2 in communications (electronic), 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2), or 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), 3 semester hours in electronic systems troubleshooting and maintenance. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, EWCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 1 in DC circuits, 1 in AC circuits, 2 in digital principles, 2 in solid state electronics, 2 in computer systems and organization, 2 in control systems (electronic), 2 in communications (electronic), 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2), or 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), 3 semester hours in electronic systems troubleshooting and maintenance. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-EW-003

Electronics Warfare Technician
EW3
EW2
EW1
EWC
EWCS
EWCM

Exhibit Dates: 5/96–Present.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). *EW3:* Electronics Warfare Technician, Third Class (E-4). *EW2:* Electronics Warfare Technician, Second Class (E-5). *EW1:* Electronics Warfare Technician, First Class (E-6). *EWC:* Chief Electronics Warfare Technician (E-7). *EWCS:* Senior Chief Electronics Warfare Technician (E-8). *EWCM:* Master Chief Electronics Warfare Technician (E-9).

Description

Summary: Operates, repairs, and performs maintenance on electronic warfare equipment; analyzes and evaluates received signals. *EW3:* Operates electronic signal analyzing equipment; operates electronic direction-finding equipment; maintains radio frequency transmission systems; performs maintenance on electronic warfare equipment; reads and interprets electronic block diagrams. If NEC is 1733, Electronic Warfare Systems Technician (AN/SLQ-32(V)2), performs corrective and preventive maintenance on electronic warfare support system; if NEC is 1734, Electronic Warfare Systems Technician (SLQ-32(V)3), performs preventive and corrective maintenance on electronic warfare DECM system; if NEC is 1738, Journeyman Technician, troubleshoots and repairs electronic systems to component level; if NEC is 1781, Advanced Applications, interprets data. *EW2:* Able to perform the duties required for EW3; tests analog and digital circuits, servomechanisms, and digital logic and interconnecting circuits; operates general purpose test equipment, including power meters, oscilloscopes, signal generators, counters, pulse generators, and time/frequency domain reflectometers; reads and interprets electrical/electronic schematics and blueprints for maintenance and modifications; inventories installed equipment and spare part support. *EW1:* Able to perform the duties required for EW2; analyzes electronic systems faults and initiates corrective action; analyzes test equipment defects and determines corrective action; trains electronics warfare operators in signal analysis and equipment operation; prepares weekly preventive maintenance schedules. *EWC:* Able to perform the duties required for EW1; tests and evaluates newly-installed or repaired electronic warfare equipment; conducts electronic interference surveys and recommends corrective action; supervises an operational training program for electronic warfare personnel; supervises and trains personnel in maintenance procedures; coordinates test equipment calibration requirements and procedures; writes messages and prepares reports; prepares quarterly maintenance schedules. *EWCS:* Able to perform the duties required for EWC; administers a long-range planned maintenance program; coordinates the collection, preparation, and dissemination of technical information pertaining to test, maintenance, and repair of electronic warfare systems; prepares directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; organizes and schedules training programs. *EWCM:* Able to perform the duties required for EWCS; plans, organizes, and implements electronic warfare activities; forecasts future requirements; develops operating budgets and monitors expenditures.

Recommendation, EW3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in principles of electronics, 2 in computer systems troubleshooting and maintenance, and 2 in computer systems operation; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2); 1734, Electronic Warfare System Technician (SLQ-32(V)3); 1738, Journeyman Technician; or 1781, Advanced Applications, 3 semester hours in electronic systems troubleshooting and maintenance (5/96).

Recommendation, EW2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in principles of electronics, 3 in computer systems troubleshooting and maintenance, and 3 in computer systems operation; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2); 1734, Electronic Warfare System Technician (SLQ-32(V)3); 1738, Journeyman Technician; or 1781, Advanced Applications, 3 semester hours in electronic systems troubleshooting and maintenance (5/96).

Recommendation, EW1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in principles of electronics, 6 in computer systems troubleshooting and maintenance, and 6 in computer systems operation; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2); 1734, Electronic Warfare System Technician (SLQ-32(V)3); 1738, Journeyman Technician; or 1781, Advanced Applications, 3 semester hours in electronic systems troubleshooting and maintenance (5/96).

Recommendation, EWC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in principles of electronics, 6 in computer systems troubleshooting and maintenance, and 6 in computer systems operation; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2); 1734, Electronic Warfare System Technician (SLQ-32(V)3); 1738, Journeyman Technician; or 1781, Advanced Applications, 3 semester hours in electronic systems troubleshooting and maintenance. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in management information systems, and 2 in data analysis and management (5/96).

Recommendation, EWCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in principles of electronics, 6 in computer systems troubleshooting and maintenance, and 6 in computer systems operation; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2); 1734, Electronic Warfare System Technician (SLQ-32(V)3); 1738, Journeyman Technician; or 1781, Advanced Applications, 3 semester hours in electronic systems troubleshooting and maintenance. In the upper-division baccalaureate category, 4 semester hours in human resource management, 3 in management information systems, and 4 in data analysis and management (5/96).

Recommendation, EWCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in principles of electronics, 6 in computer systems troubleshooting and maintenance, and 6 in computer systems operation; if NEC was 1733, Electronic Warfare System Technician (AN/SLQ-32(V)2); 1734, Electronic Warfare System Technician (SLQ-32(V)3); 1738, Journeyman Technician; or 1781, Advanced Applications, 3 semester hours in electronic systems troubleshooting and maintenance. In the upper-division baccalaureate category, 6 semester hours in human resource management, 3 in management information systems, and 6 in data analysis and management (5/96).

NER-FC-001

FIRE CONTROLMAN

FC3
FC2
FC1
FCC
FCCS
FCCM

Exhibit Dates: 1/90–Present.

Occupational Field: 8 (Weapons Control).

Career Pattern

SN: Seaman (E-3). *FC3:* Fire Controlman, Third Class (E-4). *FC2:* Fire Controlman, Second Class (E-5). *FC1:* Fire Controlman, First Class (E-6). *FCC:* Chief Fire Controlman (E-7). *FCCS:* Senior Chief Fire Controlman (E-8). *FCCM:* Master Chief Fire Controlman (E-9).

Description

Summary: Operates, repairs, and performs maintenance on shipboard gun fire control systems (including submarine weapon control systems and associated test equipment) and surface missile fire control systems (including weapon direction systems and search radar), telemetry equipment, missiles, and associated support equipment. *FC3:* Troubleshoots and repairs electrical and electronic gun fire control systems and surface missile fire control systems; performs preventive maintenance on weapons; follows standard checkout procedures to locate and repair system malfunctions; tests, aligns, and adjusts radar-indicating circuits and power supplies; uses test equipment, including voltmeters, oscilloscopes, and signal generators; performs operational tests and operator adjustments on weapon equipment; operates radar equipment, fire control systems, and weapons direction/designation systems in all modes; fabricates, maintains, and installs electrical/electronic cable assemblies; performs electromechanical maintenance; completes maintenance forms; inventories parts and supplies. *FC2:* Able to perform the duties required for FC3; repairs, troubleshoots, and performs preventive maintenance on electrical and electronic gun fire control systems, specialized equipment, and circuits; reads schematics and block diagrams; completes maintenance reports; inventories installed equipment. *FC1:* Able to perform the duties required for FC2; analyzes fire control systems failures and directs corrective maintenance action; coordinates shop activities and serves as weapon systems test coordinator; diagnoses nonroutine malfunctions and provides the expertise necessary to affect repairs; inspects completed work assignments; tests, analyzes, isolates faults, and adjusts digital computers; prepares weekly maintenance schedules. *FCC:* Able to perform the duties required for FC1; plans and implements inspection programs and safety inspections; prepares periodic reports; serves as shop supervisor; prepares quarterly maintenance schedules. *FCCS:* Able to perform the duties required for FCC; advises and provides information on reliability, utilization, capabilities, and operations of weapons department; prepares directives and instructions for attaining organization objectives; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; organizes and schedules training programs; administers a long-range planned maintenance program. *FCCM:* Able to perform the duties required for FCCS; provides technical information and advice concerning operational employment of weapons equipment; plans, organizes, implements, and controls activities; forecasts future requirements and reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, FC3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics and 3 in applied mathematics (10/87).

Recommendation, FC2

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, and 3 in basic blueprint reading (10/87).

Recommendation, FC1

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, 2 in personnel supervision, 2 in maintenance management, and 3 in human relations (10/87).

Recommendation, FCC

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, 3 in personnel supervision, 3 in maintenance management, and 3 in human relations (10/87).

Recommendation, FCCS

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, 3 in personnel supervision, 3 in maintenance management, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (10/87).

Recommendation, FCCM

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, 3 in personnel supervision, 3 in maintenance management, and 3 in human relations. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (10/87).

NER-FN-002

FIREMAN

FN

Exhibit Dates: 1/90–Present.

Career Pattern

Fireman is a general rate (Naval apprenticeship) for persons at paygrade E-1 (recruit), E-2 (Fireman apprentice), and E-3 (Fireman). At paygrade E-4 (petty officer, third class), the person may enter any one of the following ratings: Boiler Technician (BT), Electrician's Mate (EM), Engineman (EN), Gas Turbine System Technician (GS), Interior Communications Electrician (IC), Machinist's Mate (MM), Damage Controlman (DC), Hull Maintenance Technician (HT), Machinery Repairman (MR), Molder (ML), or Patternmaker (PM).

Description

Performs all basic fireman apprenticeship functions in engineering areas aboard ship, involving cleanliness, operation, maintenance, and preservation of main propulsion, auxiliary steam or diesel machinery, steam or diesel generators, various pumps, motors, and associated equipment; identifies basic types and components of naval boilers, steam turbines, reduction gears, propellers and shafting, shipboard electric systems, and internal combustion engines; performs routine maintenance procedures.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to marine engineering and 1 in blueprint reading; if qualified as a swimmer, first class, 1 semester hour in swimming and additional credit in swimming on the basis of institutional evaluation. Credit for Fireman should be granted only after paygrade E-3 has been achieved (3/90).

NER-FT-002

FIRE CONTROL TECHNICIAN

FTCS
FTCM

Exhibit Dates: 1/90–2/96.

Occupational Field: 8 (Weapons Control).

Career Pattern

May progress from: FTBC, Chief Fire Control Technician, Ballistic Missile Fire Control (E-7); FTGC, Chief Fire Control Technician, Gun Fire Control (E-7); or MTC, Chief Missile Technician (E-7). *FTCS:* Senior Chief Fire Control Technician (E-8). *FTCM:* Master Chief Fire Control Technician (E-9).

Description

FTCS: Able to perform the duties required for FTBC (Chief Fire Control Technician, Ballistic Missile Fire Control), FTGC (Chief Fire Control Technician, Gun Fire Control), or MTC (Chief Missile Technician); advises and provides information on reliability, utilization, capabilities, and operations of weapons department; reviews directives and instructions for attaining organization objectives; prepares correspondence; organizes and schedules training programs; administers a long-range planned maintenance program. *FTCM:* Able to perform the duties required for FTCS; provides technical information and advice concerning operational employment of weapons equipment; plans, organizes, implements, and controls activities; forecasts future requirements and reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures; prepares staff studies.

Recommendation, FTCS

In the lower-division baccalaureate/associate degree category, use the recommendation for FTCG (Chief Fire Control Technician, Gun Fire Control) in exhibit NER-FTG-002; FTBC (Chief Fire Control Technician, Ballistic Missile Fire Control) in exhibit NER-FTB-002; or MTC (Chief Missile Technician) in exhibit NER-MT-001 or NER-MT-002, as appropriate. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, FTCM

In the lower-division baccalaureate/associate degree category, use the recommendation for FTCG (Chief Fire Control Technician, Gun Fire Control) in exhibit NER-FTG-002, or FTBC (Chief Fire Control Technician, Ballistic Missile Fire Control) in exhibit NER-FTB-002, or MTC (Chief Missile Technician) in exhibit NER-MT-001 or NER-MT-002, as appropriate. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-FT-003

Fire Control Technician
FT3
FT2
FT1
FTC
FTCS
FTCM

Exhibit Dates: 3/96–Present.

Occupational Field: 8 (Weapons Control).

Career Pattern

SN: Seaman (E-3). *FT3:* Fire Control Technician, Third Class (E-4). *FT2:* Fire Control Technician, Second Class (E-5). *FT1:* Fire Control Technician, First Class (E-6). *FTC:* Chief Fire Control Technician (E-7). *FTCS:* Senior Chief Fire Control Technician (E-8). *FTCM:* Master Chief Fire Control Technician (E-9).

Description

Summary: Operates, tests, repairs, and performs maintenance on fire control systems, equipment, and associated test equipment. *FT3:* Adjusts, aligns, and calibrates basic electronic circuits; under supervision, performs troubleshooting, calibration, adjustments, and tests on fire control and guidance systems; performs maintenance on optical alignment equipment; isolates and replaces faulty parts and components; identifies electrical components and parts from drawings and schematic diagrams; identifies basic circuits; prepares computer for all modes of operations; interprets printouts of computers and peripheral equipment; complies with nuclear weapons safety standards; orders repair parts; completes maintenance data forms. *FT2:* Able to perform the duties required for FT3; isolates and replaces defective circuit components; performs troubleshooting, calibration, adjustments, and tests on fire control and guidance systems and support subsystems; operates digital computer; maintains logs and records; completes maintenance reports; inventories installed equipment. *FT1:* Able to perform the duties required for FT2; inspects maintenance and repair work of weapons systems and auxiliary equipment; reviews completed maintenance data forms; prepares planned maintenance schedules; administers nuclear weapons security procedures; supervises subordinates. *FTC:* Able to perform the duties required for FT1; compiles and analyzes missile targeting data; serves as shop supervisor; coordinates and directs maintenance on fire control, guidance, test, and readiness equipment and support subsystems; serves as special weapons handling supervisor; ensures compliance with nuclear weapons safety rules; prepares reports; prepares quarterly maintenance schedules. *FTCS:* Able to perform the duties required for FTC; advises and provides information on reliability, utilization, capabilities, and operations of weapons systems; reviews directives and instructions for attaining organization objectives; prepares correspondence; organizes and schedules training programs; administers a long-range planned maintenance program. *FTCM:* Able to perform the duties required for FTCS; provides technical information and advice concerning operational employment of weapons equipment; plans, organizes, implements, and controls activities; forecasts future requirements and reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures; prepares staff studies.

Recommendation, FT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronics, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, and 1 in basic algebra and geometry (3/96).

Recommendation, FT2

In the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronics, 3 in basic electronics laboratory, 4 in computer systems troubleshooting and maintenance, 2 in personnel supervision, and 2 in basic algebra and geometry (3/96).

Recommendation, FT1

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in basic electronics laboratory, 4 in computer systems troubleshooting and maintenance, 3 in personnel supervision, and 3 in basic algebra and geometry (3/96).

Recommendation, FTC

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in basic electronics laboratory, 4 in computer systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in basic algebra and geometry (3/96).

Recommendation, FTCS

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in basic electronics laboratory, 4 in computer systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in basic algebra and geometry. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/96).

Recommendation, FTCM

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in basic electronics laboratory, 4 in computer systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, and 3 in basic algebra and geometry. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/96).

NER-FTB-002

Fire Control Technician, Ballistic Missile
Fire Control
FTB3
FTB2
FTB1
FTBC

Exhibit Dates: 1/90–2/96.

Occupational Field: 8 (Weapons Control).

Career Pattern

SN: Seaman (E-3). FTB3: Fire Control Technician, Ballistic Missile Fire Control, Third Class (E-4). FTB2: Fire Control Technician, Ballistic Missile Fire Control, Second Class (E-5). FTB1: Fire Control Technician, Ballistic Missile Fire Control, First Class (E-6). FTBC: Chief Fire Control Technician, Ballistic Missile Fire Control (E-7). *FTCS:* Senior Chief Fire Control Technician (E-8). *FTCM:* Master Chief Fire Control Technician (E-9).

Description

Summary: Operates, tests, repairs, and performs maintenance on ballistic missile fire control systems, equipment, and associated test equipment. *FTB3:* Adjusts, aligns, and calibrates basic electronic circuits; under supervision, performs troubleshooting, calibration, adjustments, and tests on missile fire control and guidance systems; performs maintenance on optical alignment equipment; isolates and replaces faulty parts and components; identifies electrical components and parts from drawings and schematic diagrams; identifies basic circuits; prepares computer for all modes of operations; interprets printouts of computers and peripheral equipment; complies with nuclear weapons safety standards; orders repair parts; completes maintenance data forms. *FTB2:* Able to perform the duties required for FTB3; isolates and replaces defective circuit components; performs troubleshooting, calibration, adjustments, and tests on missile fire control and guidance systems and support subsystems; operates analog/digital computer; maintains logs and records; completes maintenance reports; inventories installed equipment. *FTB1:* Able to perform the duties required for FTB2; inspects maintenance and repair work of weapons systems and auxiliary equipment; reviews completed maintenance data forms; prepares planned maintenance schedules; administers nuclear weapons security procedures. *FTBC:* Able to perform the duties required for FTB1; compiles and analyzes missile targeting data; serves as shop supervisor; coordinates and directs maintenance on fire control, guidance, missile, test, and readiness equipment and support subsystems; serves as special weapons handling supervisor; ensures compliance with nuclear weapons safety rules; prepares reports; prepares quarterly maintenance schedules.

Recommendation, FTB3

In the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronics, 2 in computer organization, 3 in basic electronics laboratory, and 3 in computer systems troubleshooting and maintenance (12/89).

Recommendation, FTB2

In the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronics, 2 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, 1 in solid state electronics, and 2 in personnel supervision (12/89).

Recommendation, FTB1

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, 1 in solid state electronics, and 3 in personnel supervision (12/89).

Recommendation, FTBC

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, 1 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management (12/89).

NER-FTG-002

Fire Control Technician, Gun Fire Control
FTG3
FTG2
FTG1
FTGC

Exhibit Dates: 1/90–2/96.

Occupational Field: 8 (Weapons Control).

Career Pattern

SN: Seaman (E-3). FTG3: Control Technician, Gun Fire Control, Third Class (E-4). FTG2: Fire Control Technician, Gun Fire Control, Second Class (E-5). FTG1: Fire Control Technician, Gun Fire Control, First Class (E-6). FTGC: Chief Fire Control Technician, Gun Fire Control (E-7). *FTCS:* Senior Chief Fire Control Technician (E-8). *FTCM:* Master Chief Fire Control Technician (E-9).

Description

Summary: Operates, tests, repairs, and performs maintenance on shipboard gun fire control systems including submarine weapons control systems and associated test equipment. *FTG3:* Assists in troubleshooting and repairing electrical and electronic gun fire control systems; performs preventive maintenance on weapons; follows standard checkout procedures to locate and repair system malfunctions; operates target bearing transmitters and digital data storage devices; loads computer programs; complies with nuclear weapons safety standards; uses test equipment, including voltmeters, oscilloscopes, and signal generators; performs operational test and operator adjustments on weapon equipment; operates fire control systems and weapons direction/designation systems in all modes; fabricates, maintains, and installs electrical/electronic cable assemblies; completes maintenance forms; inventories parts and supplies; performs mathematical computations as necessary in plotting targets. *FTG2:* Able to perform the duties required for FTG3; writes and installs machine-coded maintenance procedures; repairs, troubleshoots, and performs preventive maintenance on electrical and electronic gun fire control systems and circuits; prepares computer for all modes of operations; reads schematics and block diagrams; evaluates performance of digital data systems; completes maintenance reports; inventories installed equipment. *FTG1:* Able to perform the duties required for FTG2; analyzes fire control systems failures and directs corrective maintenance action; supervises work of subordinates; coordinates shop activities and serves as weapon systems test coordinator; analyzes digital data equipment trends and determines corrective action; inspects completed work assignments; supervises fire control plots; tests, analyzes, and isolates faults and adjusts digital computers; prepares planned maintenance schedules. *FTGC:* Able to perform the duties required for FTG1; plans and implements inspection programs and safety inspections; prepares periodic reports; serves as shop supervisor; supervises torpedo/missile fire control system maintenance; prepares quarterly maintenance schedules; trains fire control plotting teams.

Recommendation, FTG3

In the lower-division baccalaureate/associate degree category, 3 semester hours in digital electronics, 2 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, and 1 in technical mathematics (12/89).

Recommendation, FTG2

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, 1 in solid state electronics, 2 in technical mathematics, and 2 in personnel supervision (12/89).

Recommendation, FTG1

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, 1 in solid state electronics, 2 in technical mathematics, and 3 in personnel supervision (12/89).

Recommendation, FTGC

In the lower-division baccalaureate/associate degree category, 4 semester hours in digital electronics, 3 in computer organization, 3 in basic electronics laboratory, 3 in computer systems troubleshooting and maintenance, 1 in solid state electronics, 2 in technical mathematics, 3 in personnel supervision, and 3 in maintenance management (12/89).

NER-GM-002

Gunner's Mate, Chief, Senior Chief, and Master Chief
GMC
GMCS
GMCM

Exhibit Dates: 1/90–Present.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

May progress from either GMG1, Gunner's Mate, Guns, First Class (E-6), or GMM1, Gunner's Mate, Missiles, First Class (E-6). *GMC:* Chief Gunner's Mate (E-7). *GMCS:* Senior Chief Gunner's Mate (E-8). *GMCM:* Master Chief Gunner's Mate (E-9).

Description

GMC: Able to perform the duties required for GMG1 (Gunner's Mate, Guns, First Class) or GMM1 (Gunner's Mate, Missiles, First Class); supervises maintenance of ordnance electrical and electronic systems; supervises the handling and storage of explosive ordnance components; supervises training programs; analyzes discrepancy trends and determines corrective action; prepares quarterly maintenance schedules; conducts inventories; supervises the shipboard environmental pollution control programs. *GMCS:* Able to perform the duties required for GMC; plans, organizes, implements, and controls work activities in the alignment, maintenance, repair, and operation of guns, missiles, and associated equipment; organizes, schedules, and evaluates effectiveness of training; administers a long-range planned maintenance program; controls expenditure of materials; prepares performance, inventory, and inspection reports on guns, missiles, and associated equipment; administers a program for interviewing, evaluating, and assigning personnel; writes directives and correspondence. *GMCM:* Able to perform the duties required for GMCS; coordinates and manages departmental ordnance safety program and the overhaul and repair of shipboard weapons systems; prepares operating budget and monitors expenditures; prepares periodic reports concerning equipment performance and maintenance; forecasts future requirements; plans, organizes, implements, and controls activities.

Recommendation, GMC

In the lower-division baccalaureate/associate degree category, use the recommendation for either GMG1 (Gunner's Mate, Guns, First Class) in exhibit NER-GMG-003 or GMM1 (Gunner's Mate, Missiles, First Class) in exhibit NER-GMM-003, plus 3 semester hours in maintenance management (12/89).

Recommendation, GMCS

In the lower-division baccalaureate/associate degree category, use the recommendation for either GMG1 (Gunner's Mate, Guns, First Class) in exhibit NER-GMG-003 or GMM1 (Gunner's Mate, Missiles, First Class) in exhibit NER-GMM-003, plus 3 semester hours in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, GMCM

In the lower-division baccalaureate/associate degree category, use the recommendation for either GMG1 (Gunner's Mate, Guns, First Class) in exhibit NER-GMG-003 or GMM1

(Gunner's Mate, Missiles, First Class) in exhibit NER-GMM-003, plus 3 semester hours in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

NER-GMG-003

Gunner's Mate, Guns
GMG3
GMG2
GMG1

Exhibit Dates: 1/90–Present.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). GMG3: Gunner's Mate, Guns, Third Class (E-4). GMG2: Gunner's Mate, Guns, Second Class (E-5). GMG1: Gunner's Mate, Guns, First Class (E-6). *GMC:* Chief Gunner's Mate (E-7). *GMCS:* Senior Chief Gunner's Mate (E-8). *GMCM:* Master Chief Gunner's Mate (E-9).

Description

Summary: Operates and performs maintenance on shipboard guns, gun mounts, ammunition handling equipment, and small arms; inspects and repairs electric, electronic, hydraulic, mechanical, and servo systems in shipboard guns, gun mounts, rocket launchers, and ammunition-handling equipment; tests and inspects gun and rocket ammunition. *GMG3:* Tests electrical/electronic components and parts and replaces printed circuit boards; inspects and services hydraulic equipment; handles and stows ordnance, pyrotechnics, and small arms; issues, maintains, and inventories pistols, rifles, and other small arms; operates mechanical and electrical test equipment; tests for short circuits using schematics and drawings; completes maintenance records and forms. *GMG2:* Able to perform the duties required for GMG3; analyzes and repairs electronic and electrical systems malfunctions; installs and maintains components on the hydraulic systems; uses demolition charges for emergency destruction; installs, aligns, and zeroes synchros; interprets data from alignment and indicating equipment and makes adjustments; repairs hydraulic pumps; operates gun mount dynamic test equipment; instructs personnel in the transferring, handling, and storage of ammunition; orders parts, supplies, and equipment; maintains maintenance records. *GMG1:* Able to perform the duties required for GMG2; supervises crews in transferring, handling, and storing ammunition; supervises maintenance and inspection procedures; diagnoses electronic and electrical malfunctions; operates an oscilloscope and interprets results; repairs power drives; repairs and adjusts gun mount mechanical, hydraulic, and pneumatic systems; prepares periodic equipment performance and maintenance reports and environmental pollution control report; prepares weekly maintenance schedules.

Recommendation, GMG3

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electrical laboratory, 1 in electrical systems troubleshooting and maintenance, and 1 in hydraulic systems troubleshooting and maintenance (12/89).

Recommendation, GMG2

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electrical laboratory, 2 in electrical systems troubleshooting and maintenance, 1 in hydraulic systems troubleshooting and maintenance, and 2 in personnel supervision (12/89).

Recommendation, GMG1

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic electrical laboratory, 3 in electrical systems troubleshooting and maintenance, 2 in hydraulic systems troubleshooting and maintenance, and 3 in personnel supervision (12/89).

NER-GMM-003

Gunner's Mate, Missiles
GMM3
GMM2
GMM1

Exhibit Dates: 1/90–Present.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). GMM3: Gunner's Mate, Missiles, Third Class (E-4). GMM2: Gunner's Mate, Missiles, Second Class (E-5). GMM1: Gunner's Mate, Missiles, First Class (E-6). *GMC:* Chief Gunner's Mate (E-7). *GMCS:* Master Chief Gunner's Mate (E-8). *GMCM:* Master Chief Gunner's Mate (E-9).

Description

Summary: Operates and performs maintenance on guided missile launching systems, missile launching groups, rocket launchers, guns, gun mounts, turrets, projectors, and associated handling equipment; inspects and repairs electrical, electronic, hydraulic, mechanical, and servo systems; tests and inspects ammunition and missiles and their components. *GMM3:* Tests and replaces circuit boards and components of electronic equipment; inspects and services hydraulic equipment; maintains hydraulic pipes, fittings, and pressure gauges; handles and stows explosive ordnance; tests for short circuits, ground, and continuity of interconnecting cables and wiring between components of electrical and electronic equipment; follows schematic diagrams and hydraulic system blueprints; installs mechanical alignment hardware; completes maintenance data forms; conducts supply inventories. *GMM2:* Able to perform the duties required for GMM3; performs systems operability tests; instructs crews in the handling and storage of explosives; inspects missile-handling equipment; adjusts and aligns launch equipment; maintains shop and equipment logs; orders repair parts and special tools. *GMM1:* Able to perform the duties required for GMM2; diagnoses intermittent, recurring, and interacting electrical and electronic malfunctions; supervises crews in missile and nuclear weapon handling; prepares equipment maintenance reports.

Recommendation, GMM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in digital principles, 2 in computer systems and organization, and 2 in computer systems troubleshooting and maintenance (12/89).

Recommendation, GMM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital principles, 1 in solid state electronics, 3 in computer systems and organization, 3 in computer systems troubleshooting and maintenance, and 2 in personnel supervision (12/89).

Recommendation, GMM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 4 in digital principles, 2 in solid state electronics, 4 in computer systems and organization, 3 in computer systems troubleshooting and maintenance, and 3 in personnel supervision (12/89).

NER-GS-001

Gas Turbine System Technician, Senior Chief
and Master Chief
GSCS
GSCM

Exhibit Dates: 1/90–4/92.

Occupational Field: 3 (Marine Engineering).

Career Pattern

May progress from GSEC, Chief Gas Turbine System Technician, Electrical (E-7), or GSMC, Chief Gas Turbine System Technician, Mechanical (E-7). *GSCS:* Senior Chief Gas Turbine System Mechanic (E-8). *GSCM:* Master Chief Gas Turbine System Mechanic (E-9).

Description

GSCS: Able to perform the duties required for GSMC (Chief Gas Turbine System Technician, Mechanical) or GSEC (Chief Gas Turbine System Technician, Electrical); provides guidance on technical information pertaining to operation, maintenance, and repair of gas turbine systems; interviews, evaluates, and assigns personnel; prepares correspondence, directives, and reports; maintains divisional training records; organizes and schedules training programs and evaluates their effectiveness; may supervise 25-30 persons. *GSCM:* Able to perform the duties required for GSCS; develops and monitors safety programs; prepares diagrams and equipment layouts; coordinates repair activities, and performs casualty analysis; forecasts future requirements; establishes goals and priorities; plans, implements, and controls activities in compliance with orders and directives; develops operating budgets and monitors expenditures.

Recommendation, GSCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in record keeping, 1 in technical writing, and 1 additional semester hour in personnel supervision; add either the 27 semester hours for GSMC (Chief Gas Turbine System Technician, Mechanical) in exhibit NER-GSM-001 (in the 1954-1989 Guide) or the 32 semester hours for GSEC (Chief Gas Turbine System Technician, Electrical), in exhibit NER-GSE-001, as appropriate. In the upper-division baccalaureate category, 3 semester hours in quality control, 3 in personnel management, and 3 for field experience in management (5/81).

Recommendation, GSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in record keeping, 2 in technical writing, and 1 additional semester hour in personnel supervision; add either the 27 semester hours for GSMC (Chief Gas Turbine System Technician, Mechanical) in exhibit NER-GSM-001 (in the 1954-1989 Guide), or the 32 semester hours for GSEC (Chief Gas Turbine System Technician, Electrical) in exhibit NER-GSE-001, as appropriate.

In the upper-division baccalaureate category, 3 semester hours in quality control, 3 in personnel management, and 6 for field experience in management (5/81).

NER-GS-002

Gas Turbine System Technician, Senior Chief and Master Chief
GSCS
GSCM

Exhibit Dates: 5/92–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

May progress from GSEC, Chief Gas Turbine System Technician, Electrical (E-7), or GSMC, Chief Gas Turbine System Technician, Mechanical (E-7). *GSCS:* Senior Chief Gas Turbine System Mechanic (E-8). *GSCM:* Master Chief Gas Turbine System Mechanic (E-9).

Description

GSCS: Able to perform the duties required for GSCM (Chief Gas Turbine System Technician, Mechanical) or GSEC (Chief Gas System Technician, Electrical); provides guidance on technical information pertaining to operation, maintenance, and repair of gas turbine systems; interviews, evaluates, and assigns personnel; prepares correspondence, directives, and reports; maintains divisional training records; organizes and schedules training programs and evaluates their effectiveness; supervises environmental pollution control programs; administers maintenance and material management program and screens requests for tender or shipyard work; may supervise 25-30 persons. *GSCM:* Able to perform the duties required for GSCS; develops and monitors safety programs; prepares diagrams and equipment layouts; coordinates repair activities and performs casualty analysis; forecasts future requirements; establishes goals and priorities; plans, implements, and controls activities in compliance with orders and directives; develops operating budgets and monitors expenditures.

Recommendation, GSCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 3 in maintenance management, and 3 in records and information management; add the credit recommended for: GSCM (Chief Gas Turbine System Technician, Mechanical) in exhibit NER-GSM-001 or NER-GSM-002; or GSCE (Chief Gas Turbine System Technician, Electrical) in exhibit NER-GSE-001 or NER-GSE-002. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, GSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 3 in maintenance management, and 3 in records and information management; add the credit recommended for: GSCM (Chief Gas Turbine System Technician, Mechanical) in exhibit NER-GSM-001 or NER-GSM-002; or GSCE (Chief Gas Turbine System Technician, Electrical) in exhibit NER-GSE-001 or NER-GSE-002. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-GSE-001

Gas Turbine System Technician, Electrical
GSE3
GSE2
GSE1
GSEC

Exhibit Dates: 1/90–4/92.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). GSE3: Gas Turbine System Technician, Electrical, Third Class (E-4). GSE2: Gas Turbine System Technician, Electrical, Second Class (E-5). GSE1: Gas Turbine System Technician, Electrical, First Class (E-6). GSEC: Chief Gas Turbine System Technician, Electrical (E-7). *GSCS:* Senior Chief Gas Turbine System Technician (E-8). *GSCM:* Master Chief Gas Turbine System Technician (E-9).

Description

Summary: Operates, repairs, and performs organizational and intermediate maintenance on electrical and electronic components of gas turbine engine, main propulsion machinery, auxiliary equipment, and control systems; repairs and performs maintenance on assigned electrical and electronic circuitry up to printed circuit module with an ability to continue to the component level. *GSE3:* Inspects, locates, identifies, and replaces faulty components; performs preventive maintenance on control and monitoring circuits; maintains electrical equipment such as motors, batteries, and bus transfer equipment; tests alarm and indicating system and locates faults; interprets technical drawings in the form of schematics, blueprints, and charts; operates and performs mechanical maintenance on propulsion systems; operates and recognizes fault indicators from dials, gauges, and controls; locates, interprets, and maintains files of publications, directives, manuals, and catalogs; operates engine control systems, electrical generators, and electric plant control equipment from local operating stations or switchboards; performs maintenance and checkout procedures on power supplies, engineering control systems, and electrical generator control units; locates equipment casualties to systems, subsystems, and circuits in main gas turbine control equipment; uses necessary test equipment for troubleshooting gas turbine control equipment; checks, repairs, or adjusts alarm and indicating systems. *GSE2:* Able to perform the duties required for GSE3; inserts and monitors diagnostic programs in order to diagnose malfunctions of digital data equipment; maintains electromechanical and electrohydraulic control systems; performs engineering system control checks and calibrations. *GSE1:* Able to perform the duties required for GSE2; diagnoses intermittent, recurring, and interacting electrical and electronic malfunctions; analyzes system control and monitoring circuit malfunctions and determines corrective action; coordinates and controls operation of engineering control system at control stations or consoles; inspects, monitors, and analyzes condition of all subsystems; trains and supervises subordinates in operation, maintenance, and repair of engineering control systems; reviews completed system forms and prepares schedules for preventive maintenance. *GSEC:* Able to perform the duties required for GSE1; prepares and maintains quarterly schedules, summaries, and performance logs; monitors system performance logs; estimates time and materials necessary for repair of gas turbine control and auxiliary systems; analyzes discrepancy trends, determines deficiencies, and develops inspection and corrective procedures; inspects installation, alteration, and repair of equipment; maintains accounting system forms, records, and reports.

Recommendation, GSE3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics laboratory, 3 in basic AC/DC theory, 1 in applied physics, 2 in motors and controls, 2 in blueprint reading, and 2 in technical mathematics; add 3 semester hours in electronic systems troubleshooting on the basis of institutional evaluation (5/81).

Recommendation, GSE2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics laboratory, 1 in applied physics, 3 in basic AC/DC theory, 2 in motors and controls, 2 in blueprint reading 2 in technical mathematics, 6 in systems troubleshooting, and 2 in digital fundamentals. In the upper-division baccalaureate category, 2 semester hours in quality control (5/81).

Recommendation, GSE1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics laboratory, 1 in applied physics, 3 in basic AC/DC theory, 2 in motors and controls, 2 in blueprint reading, 2 in technical mathematics, 6 in systems troubleshooting, 2 in digital fundamentals, 2 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours in quality control (5/81).

Recommendation, GSEC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics laboratory, 1 in applied physics, 3 in basic AC/DC theory, 2 in motors and controls, 2 in blueprint reading, 2 in technical mathematics, 6 in systems troubleshooting, 2 in digital fundamentals, 2 in personnel supervision, 3 in maintenance management, 3 in introduction to management, and 3 in safety management. In the upper-division baccalaureate category, 3 semester hours in quality control (5/81).

NER-GSE-002

Gas Turbine System Technician, Electrical
GSE3
GSE2
GSE1
GSEC

Exhibit Dates: 5/92–1/98.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). GSE3: Gas Turbine System Technician, Electrical, Third Class (E-4). GSE2: Gas Turbine System Technician, Electrical, Second Class (E-5). GSE1: Gas Turbine System Technician, Electrical, First Class (E-6). GSEC: Chief Gas Turbine System Technician, Electrical (E-7). *GSCS:* Senior Chief Gas Turbine System Technician (E-8). *GSCM:* Master Chief Gas Turbine System Technician (E-9).

Description

Summary: Operates, repairs, and performs organizational and intermediate maintenance on electrical and electronic components of gas turbine engine, main propulsion machinery, auxiliary equipment, and control systems; repairs and performs maintenance on assigned electrical and electronic circuitry up to printed circuit module with an ability to continue to the component level. *GSE3:* Inspects, locates, identifies, and replaces faulty components; performs preventive maintenance on control and monitoring circuits; maintains electrical equipment such as motors, batteries, and bus transfer equipment; tests alarm and indicating system and locates faults; interprets technical drawings in the form of schematics, blueprints, and charts; operates and performs mechanical maintenance on propulsion systems; operates and recognizes fault indicators from dials, gauges, and controls; locates, interprets, and maintains files of publications, directives, manuals, and catalogs; operates engine control systems, electrical generators, and electric plant control equipment from local operating stations or switchboards; performs maintenance and checkout procedures on power supplies, engineering control systems, and electrical generator control units; locates equipment casualties to systems, subsystems, and circuits in main gas turbine control equipment; uses necessary test equipment for troubleshooting gas turbine control equipment; checks, repairs, or adjusts alarm and indicating systems; obtains samples of fuel, oil, and water for quality assurance; detects and treats corrosion; monitors and minimizes pollution; maintains inventory; orders supplies and equipment. *GSE2:* Able to perform the duties required for GSE3; inserts and monitors diagnostic programs in order to diagnose malfunctions of digital data equipment; maintains electromechanical and electrohydraulic control systems; performs engineering system control checks and calibrations; performs general and technical administration. *GSE1:* Able to perform the duties required for GSE2; diagnoses intermittent, recurring, and interacting electrical and electronic malfunctions; analyzes system control and monitoring circuit malfunctions and determines corrective action; coordinates and controls operation of engineering control system at control stations or consoles; inspects, monitors, and analyzes condition of all subsystems; trains and supervises personnel in operation, maintenance, and repair of engineering control systems; reviews completed system forms and prepares schedules for preventive maintenance; performs quality assurance inspections and training. *GSEC:* Able to perform the duties required for GSE1; supervises the maintenance, operation, and repair of electrical, electronic, propulsion, and auxiliary equipment; prepares and maintains quarterly schedules, summaries, and performance logs; monitors system performance logs; estimates time and materials necessary for repair of gas turbine control and auxiliary systems; analyzes discrepancy trends, determines deficiencies, and develops inspection and corrective procedures; inspects installation, alteration, and repair of equipment; maintains accounting system forms, records, and reports.

Recommendation, GSE3

In the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits, 1 in basic electricity laboratory, 2 in motors and generators, 2 in blueprint reading, and 3 in electrical systems troubleshooting (5/92).

Recommendation, GSE2

In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in basic electricity laboratory, 2 in motors and generators, 2 in blueprint reading, 3 in electrical systems troubleshooting, 3 in digital fundamentals, 2 in applied physics, and 2 in control systems (5/92).

Recommendation, GSE1

In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in basic electricity laboratory, 2 in motors and generators, 2 in blueprint reading, 3 in electrical systems troubleshooting, 3 in digital fundamentals, 2 in applied physics, 2 in control systems, 2 in personnel supervision, 2 in maintenance management, and 2 in records and information management (5/92).

Recommendation, GSEC

In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in basic electricity laboratory, 2 in motors and generators, 2 in blueprint reading, 3 in electrical systems troubleshooting, 3 in digital fundamentals, 2 in applied physics, 2 in control systems, 3 in personnel supervision, 3 in maintenance management, and 3 in records and information management (5/92).

NER-GSE-003

GAS TURBINE SYSTEM TECHNICIAN, ELECTRICAL
GSE3
GSE2
GSE1
GSEC

Exhibit Dates: 2/98–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). GSE3: Gas Turbine System Technician, Electrical, Third Class (E-4). GSE2: Gas Turbine System Technician, Electrical, Second Class (E-5). GSE1: Gas Turbine System Technician, Electrical, First Class (E-6). GSEC: Chief Gas Turbine System Technician, Electrical (E-7). *GSCS:* Senior Chief Gas Turbine System Technician (E-8). *GSCM:* Master Chief Gas Turbine System Technician (E-9).

Description

Summary: Operates, repairs, and performs organizational and intermediate maintenance on electrical and electronic components of gas turbine engine, main propulsion machinery, auxiliary equipment, and control systems; repairs and performs maintenance on assigned electrical and electronic circuitry up to printed circuit module with an ability to continue to the component level. *GSE3:* Inspects, locates, identifies, and replaces faulty components; performs preventive maintenance on control and monitoring circuits; maintains electrical equipment such as motors, batteries, and bus transfer equipment; tests alarm and indicating system and locates faults; interprets technical drawings in the form of schematics, blueprints, and charts; operates and performs mechanical maintenance on propulsion systems; operates and recognizes fault indicators from dials, gauges, and controls; locates, interprets, and maintains files of publications, directives, manuals, and catalogs; operates engine control systems, electrical generators, and electric plant control equipment from local operating stations or switchboards; performs maintenance and checkout procedures on power supplies, engineering control systems, and electrical generator control units; locates equipment casualties to systems, subsystems, and circuits in main gas turbine control equipment; uses necessary test equipment for troubleshooting gas turbine control equipment; checks, repairs, or adjusts alarm and indicating systems; analyzes samples of fuel, oil, and water for quality assurance; detects and treats corrosion; monitors and minimizes pollution; maintains inventory; orders supplies and equipment. *GSE2:* Able to perform the duties required for GSE3; inserts and monitors diagnostic programs in order to diagnose malfunctions of digital data equipment; maintains electromechanical, pneumatic, and electrohydraulic control systems; performs engineering system control checks and calibrations; performs general and technical administration. *GSE1:* Able to perform the duties required for GSE2; diagnoses intermittent, recurring, and interacting electrical and electronic malfunctions; analyzes system control and monitoring circuit malfunctions and determines corrective action; coordinates and controls operation of engineering control system at control stations or consoles; inspects, monitors, and analyzes condition of all subsystems; trains and supervises personnel in operation, maintenance, and repair of engineering control systems; reviews completed system forms and prepares schedules for preventive maintenance; performs quality assurance inspections and training. *GSEC:* Able to perform the duties required for GSE1; supervises the maintenance, operation, and repair of electrical, electronic, propulsion, and auxiliary equipment; prepares and maintains quarterly schedules, summaries, and performance logs; monitors system performance logs; estimates time and materials necessary for repair of gas turbine control and auxiliary systems; analyzes discrepancy trends, determines deficiencies, and develops inspection and corrective procedures; inspects installation, alteration, and repair of equipment; maintains accounting system forms, records, and reports.

Recommendation, GSE3

In the lower-division baccalaureate/associate degree category, 1 semester hour in DC circuits, 1 in basic electricity laboratory, 2 in motors and generators, 2 in schematic diagrams, and 3 in electrical systems troubleshooting (2/98).

Recommendation, GSE2

In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in basic electricity laboratory, 2 in motors and generators, 2 in schematic diagrams, 3 in electrical systems troubleshooting, 3 in digital circuits, 2 in applied physics, 2 in control systems, and 1 in computer literacy (2/98).

Recommendation, GSE1

In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in basic electricity laboratory, 2 in motors and generators, 2 in schematic diagrams, 3 in electrical systems troubleshooting, 3 in digital circuits, 2 in applied physics, 2 in control systems, 2 in personnel supervision, 2 in maintenance management, 2 in records and information management, 2 in fluid analysis laboratory (POL), and 1 in computer literacy (2/98).

Recommendation, GSEC

In the lower-division baccalaureate/associate degree category, 2 semester hours in DC circuits, 2 in basic electricity laboratory, 2 in motors and generators, 2 in schematic diagrams, 3 in electrical systems troubleshooting, 3 in digital circuits, 2 in applied physics, 2 in control systems, 3 in personnel supervision, 3 in maintenance management, 3 in records and information management, 2 in fluid analysis laboratory (POL), and 1 in computer literacy (2/98).

NER-GSM-002

Gas Turbine System Technician, Mechanical

GSM3
GSM2
GSM1
GSMC

Exhibit Dates: 1/90–10/97.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). GSM3: Gas Turbine System Technician, Mechanical, Third Class (E-4). GSM2: Gas Turbine System Technician, Mechanical, Second Class (E-5). GSM1: Gas Turbine System Technician, Mechanical, First Class (E-6). GSMC: Chief Gas Turbine System Technician, Mechanical (E-7). *GSCS:* Senior Chief Gas Turbine System Technician (E-8). *GSCM:* Master Chief Gas Turbine System Technician (E-9).

Description

Summary: Operates, repairs, and performs maintenance on mechanical components of gas turbine engines, main propulsion machinery, auxiliary equipment, and propulsion control systems. *GSM3:* Troubleshoots and performs maintenance on hydraulic, electrical, and propulsion systems of a gas turbine; uses schematic diagrams, drawings, charts, and blueprints; fabricates and installs both high and low pressure tubing and hose; maintains logs and records. *GSM2:* Able to perform the duties required for GSM3; repairs hydraulic system components and pneumatic/hydraulic systems; repairs and maintains low pressure air compressors, and gas turbine reduction gear clutching assemblies; tests propulsion fuels and lubricants; makes pitch and valve adjustments; replaces seal rings; overhauls pumps; prepares and maintains daily fuel and water reports; requisitions supplies and equipment; operates propulsion console equipment. *GSM1:* Able to perform the duties required for GSM2; supervises propulsion machinery spaces; coordinates and controls operations of engineering control systems at the central control station; supervises the receiving, transferring, discharging, and storage of propulsion fuels and lubricants; trains and supervises personnel in the operation of engineering control systems; maintains, inspects, and monitors all systems; maintains records and prepares maintenance schedules. *GSMC:* Able to perform the duties required for GSM1; supervises engine change-outs and shipboard mechanical alterations; prepares summaries and quarterly preventive maintenance schedules; maintains accounting system forms, records, and reports; inspects the installation, alteration, and repair of equipment.

Recommendation, GSM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic marine engineering (gas turbines), 3 in basic marine engineering (auxiliaries), 3 in maintenance technology, and 1 in blueprint reading (3/90).

Recommendation, GSM2

In the lower-division baccalaureate/associate degree category, 5 semester hours in basic marine engineering (gas turbines), 5 in basic marine engineering (auxiliaries), 6 in maintenance technology, 2 in blueprint reading, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, GSM1

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic marine engineering (gas turbines), 6 in basic marine engineering (auxiliaries), 9 in maintenance technology, 2 in blueprint reading, 2 in record keeping, 2 principles of supervision, and 1 in maintenance management (3/90).

Recommendation, GSMC

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic marine engineering (gas turbines), 6 in basic marine engineering (auxiliaries), 9 in maintenance technology, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 2 in maintenance management (3/90).

NER-GSM-003

Gas Turbine System Technician, Mechanical

GSM3
GSM2
GSM1
GSMC

Exhibit Dates: 11/97–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). GSM3: Gas Turbine System Technician, Mechanical, Third Class (E-4). GSM2: Gas Turbine System Technician, Mechanical, Second Class (E-5). GSM1: Gas Turbine System Technician, Mechanical, First Class (E-6). GSMC: Chief Gas Turbine System Technician, Mechanical (E-7). *GSCS:* Senior Chief Gas Turbine System Technician (E-8). *GSCM:* Master Chief Gas Turbine System Technician (E-9).

Description

Summary: Operates, repairs, and performs maintenance on mechanical components of gas turbine engines, main propulsion machinery, auxiliary equipment, and propulsion control systems. *GSM3:* Troubleshoots and performs maintenance on hydraulic, electrical, and propulsion systems of a gas turbine; uses schematic diagrams, drawings, charts, and blueprints; fabricates and installs both high-and low-pressure tubing and hose; maintains logs and records; uses computer software. *GSM2:* Able to perform the duties required for GSM3; repairs hydraulic system components and pneumatic/hydraulic systems; repairs and maintains low-pressure air compressors, and gas turbine reduction gear clutching assemblies; tests propulsion fuels and lubricants; makes pitch and valve adjustments; replaces seal rings; overhauls pumps; prepares and maintains daily fuel and water reports; requisitions supplies and equipment; operates propulsion console equipment. *GSM1:* Able to perform the duties required for GSM2; supervises propulsion machinery spaces; coordinates and controls operations of engineering control systems at the central control station; supervises the receiving, transferring, discharging, and storage of propulsion fuels and lubricants; trains and supervises personnel in the operation of engineering control systems; maintains, inspects, and monitors all systems; maintains records and prepares maintenance schedules. *GSMC:* Able to perform the duties required for GSM1; supervises engine change-outs and shipboard mechanical alterations; prepares summaries and quarterly preventive maintenance schedules; maintains accounting system forms, records, and reports; inspects the installation, alteration, and repair of equipment.

Recommendation, GSM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in power systems engineering (gas turbines), 6 in power systems maintenance, 1 in applied computer technology, and 1 in blueprint reading (11/97).

Recommendation, GSM2

In the lower-division baccalaureate/associate degree category, 4 semester hours in power systems engineering (gas turbines), 8 in power systems maintenance, 2 in blueprint reading, and 2 in applied computer technology (11/97).

Recommendation, GSM1

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering (gas turbines), 9 in power systems maintenance, 3 in blueprint reading, 3 in applied computer technology, 2 personnel supervision, and 1 in maintenance management. In the upper-division baccalaureate category, 2 semester hours for field experience in management (11/97).

Recommendation, GSMC

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering (gas turbines), 9 in power systems maintenance, 3 in blueprint reading, 3 in applied computer technology, 3 in personnel supervision, and 2 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (11/97).

NER-HM-001

Hospital Corpsman

HM3
HM2
HM1
HMC
HMCS
HMCM

Exhibit Dates: 1/90–4/92.

Occupational Field: 14 (Health Care).

Career Pattern

HN: Hospitalman (E-3). *HM3:* Hospital Corpsman, Third Class (E-4). *HM2:* Hospital Corpsman, Second Class (E-5). *HM1:* Hospital Corpsman, First Class (E-6). *HMC:* Chief Hospital Corpsman (E-7). *HMCS:* Senior Chief Hospital Corpsman (E-8). *HMCM:* Master Chief Hospital Corpsman (E-9).

Description

Summary: Serves as an assistant in the prevention and treatment of diseases and injuries and in the administration of medical departments. *HM3:* Administers first aid; assists with physical examinations; provides nursing care to patients; administers medicine and collects specimens; assists in the transportation of the sick and injured; performs cardiopulmonary resuscitation; performs emergency procedures for the treatment of common injuries; transcribes medical orders; writes admission nursing notes; admits, transfers, and discharges patients; maintains mechanical equipment on the ward. *HM2:* Able to perform the duties required for HM3; submits routine medical reports; supervises personnel in performance of clinic or ward duties; maintains medical journals, logs, and health records; prepares, processes, controls, and transmits optical-scan documents; instructs medical and nonmedical personnel in general and emergency medical care and in self-administration of medications; performs elementary laboratory procedures, such as urinalysis, blood count, and preparation of smears. *HM1:* Able to perform the duties required for HM2; performs supervisory duties in such areas as sick call, health care inspections, preventive medicine and environmental inspections; differentiates between normal and abnormal laboratory results; maintains health, dental, personnel, and accounting records; determines legal implications in routine and emergency medical care situations. *HMC:* Able to perform the duties required for HM1; supervises departmental administrative procedures and patient care delivery; plans, supervises, and coordinates health care programs; compiles budgetary statistical data; orders, receives, and issues supplies. *HMCS:* Able to perform the duties required for HMC; prepares directives and instructions for attaining organization objectives and improving operations; establishes a program for interviewing, evaluating, and assigning personnel for maximum utilization; prepares correspondence; organizes and schedules training programs. *HMCM:* Able to perform the duties required for HMCS; plans, organizes, and implements activities; reviews personnel, equipment, and material requirements and forecasts future requirements; establishes goals, objectives, and priorities; provides counseling on medical department training opportunities; develops operating budgets and monitors expenditures.

Recommendation, HM3

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation and 2 in advanced first aid. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 (12/81).

Recommendation, HM2

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 2 in advanced first aid, 3 in introduction to medical laboratory techniques, 3 in records management, and 1 in human relations. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 (12/81).

Recommendation, HM1

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 2 in advanced first aid, 3 in introduction to medical laboratory techniques, 3 in records management, 2 in human relations, 2 in personnel supervision, 3 in sanitation/environmental control, and 3 in personnel office procedures. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 (12/81).

Recommendation, HMC

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 2 in advanced first aid, 3 in introduction to medical laboratory techniques, 3 in records management, 3 in human relations, 3 in personnel supervision, 3 in sanitation/environmental control, 3 in personnel office procedures, 2 in communication skills, and 3 in business organization. In the upper-division baccalaureate category, 3 semester hours in personnel management. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 (12/81).

Recommendation, HMCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 2 in advanced first aid, 3 in introduction to medical laboratory techniques, 3 in records management, 3 in human relations, 3 in personnel supervision, 3 in sanitation/environmental control, 3 in personnel office procedures, 2 in communication skills, and 3 in business organization. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in business management, 3 for field experience in management, 3 in human relations, and 3 in health care administration. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 (12/81).

Recommendation, HMCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 2 in advanced first aid, 3 in introduction to medical laboratory techniques, 3 in records management, 3 in human relations, 3 in personnel supervision, 3 in sanitation/environmental control, 3 in personnel office procedures, 2 in communication skills, and 3 in business organization. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in business management, 6 for field experience in management, 3 in human relations, 3 in health care administration, and 3 in health care planning. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 (12/81).

NER-HM-002

HOSPITAL CORPSMAN
HM3
HM2
HM1
HMC
HMCS
HMCM

Exhibit Dates: 5/92–Present.

Occupational Field: 14 (Health Care).

Career Pattern

HN: Hospitalman (E-3). *HM3:* Hospital Corpsman, Third Class (E-4). *HM2:* Hospital Corpsman, Second Class (E-5). *HM1:* Hospital Corpsman, First Class (E-6). *HMC:* Chief Hospital Corpsman (E-7). *HMCS:* Senior Chief Hospital Corpsman (E-8). *HMCM:* Master Chief Hospital Corpsman (E-9).

Description

Summary: Serves as an assistant in the prevention and treatment of diseases and injuries, and in the administration of medical departments. *HM3:* Administers first aid; assists with physical examinations and makes basic clinical assessments; provides nursing care to patients; administers medicine and collects specimens; assists in the transportation of the sick and injured; transcribes medical orders; writes admission nursing notes; admits, transfers, and discharges patients; maintains mechanical equipment on the ward. *HM2:* Able to perform the duties required for HM3; submits routine medical reports; supervises personnel in performance of clinic or ward duties; maintains medical journals, logs, and health records; prepares, processes, controls, and transmits optical-scan documents; instructs medical and nonmedical personnel in general and emergency medical care and in self-administration of medications; performs elementary laboratory procedures, such as urinalysis, blood count, and preparation of smears. *HM1:* Able to perform the duties required for HM2; performs supervisory duties in such areas as sick call, health care inspections, preventive medicine, and environmental inspections; differentiates normal and abnormal laboratory results; maintains health, dental, personnel, and accounting records; determines legal implications in routine and emergency medical care situations. *HMC:* Able to perform the duties required for HM1; supervises departmental administrative procedures and patient care delivery; plans, supervises, and coordinates health care programs; compiles budgetary statistical data; orders, receives, and issues supplies. *HMCS:* Able to perform the duties required for HMC; prepares directives and instructions for attaining organization objectives and improving operations; establishes a program for interviewing, evaluating, and assigning personnel for maximum utilization; prepares correspondence; organizes and schedules training programs. *HMCM:* Able to perform the duties required for HMCS; plans, organizes, and implements activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; establishes goals, objectives, and priorities; provides counseling on medical department training opportunities; develops operating budgets and monitors expenditures.

Recommendation, HM3

In the lower-division baccalaureate/associate degree category, 2 semester hours in clinical nursing practice and 2 in physical assessment. Add the credit recommended for Hospitalman (E-3) in exhibit NER-HN-001 or NER-HN-002, depending on the time frame during which the rank of E-3 was held (5/93).

Recommendation, HM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in clinical nursing practice, 2 in physical assessment, 2 in personnel supervision, and 3 in records and information management. Add the credit recommended for Hospitalman (E-3) in either exhibit NER-HN-001 or NER-HN-002, depending on the time frame during which the rank of E-3 was held (5/93).

Recommendation, HM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in clinical nursing practice, 2 in physical assessment, 3 in personnel supervision, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in health care facilities management. Add the credit recommended for Hospitalman (E-3) in either exhibit NER-HN-001 or NER-HN-002, depending on the time frame during which the rank of E-3 was held (5/93).

Recommendation, HMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in clinical nursing practice, 2 in physical assessment, 3 in personnel supervision, and 3 in records and information management. In the upper-division baccalaureate category, 4 semester hours in health care facilities management and 3 in communication techniques for managers. Add the credit recommended for Hospitalman (E-3) in either exhibit NER-HN-001 or NER-HN-002, depending on the time frame during which the rank of E-3 was held (5/93).

Recommendation, HMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in clinical nursing practice, 2 in physical assessment, 3 in personnel supervision, and 3 in records and information management. In the upper-division baccalaureate category, 4 semester hours in health care facilities management, 3 in communication techniques for managers, 3 in human resource management, 3 for field experience in management, and 3 in management problems. Add the credit recommended for Hospitalman (E-3) in either exhibit NER-HN-001 or NER-HN-002, depending on the time frame during which the rank of E-3 was held (5/93).

Recommendation, HMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in clinical nursing practice, 2 in physical assessment, 3 in personnel supervision, and 3 in records and information management. In the upper-division baccalaureate category, 4 semester hours in health care facilities management, 3 in communication techniques for managers, 3 in human resource management, 6 for field experience in management, and 3 in management problems. Add the credit recommended for Hospitalman (E-3) in either exhibit NER-HN-001 or NER-HN-002, depending on the time frame during which the rank of E-3 was held (5/93).

NER-HN-001

HOSPITALMAN
HN

Exhibit Dates: 1/90–4/92.

Career Pattern

Hospitalman is a general rate (Naval apprenticeship) for persons at pay grades E-1 (recruit), E-2 (Hospitalman apprentice), and E-3 (Hospitalman). At pay grade E-4 (petty officer, third class), the person progresses to the Hospital Corpsman (HM) rating.

Description

Performs basic nursing care; applies bandages, splints, and dressings; takes and records vital signs; collects specimens; under direction, administers medication; identifies the basic elements and functions of the circulatory, respiratory, digestive, urogenital, musculoskeletal, and nervous systems; keeps medical department equipment and spaces clean and sanitary; performs routine clerical duties of the ward.

Recommendation

In the vocational certificate category, the training is equivalent to a one-year practical nursing program, including basic knowledge in the following areas: nursing techniques and clinical applications, basic anatomy and physiology, pharmacology, and medical terminology. In the lower-division baccalaureate/associate degree category, 2 semester hours in health and hygiene, 3 in nursing techniques, 4-5 in clinical nursing, 2 in emergency medical techniques, 1 in medical terminology, and credit in anatomy and physiology on the basis of institutional evaluation. Credit for Hospitalman (HN) should be granted only after pay grade E-3 has been achieved (12/81).

NER-HN-002

HOSPITALMAN
HN

Exhibit Dates: 5/92–Present.

Career Pattern

Hospitalman is a general rate (Naval apprenticeship) for persons at pay grades E-1 (recruit), E-2 (Hospitalman apprentice), and E-3 (Hospitalman). At pay grade E-4 (petty officer, third class), the person progresses to the Hospital Corpsman (HM) rating.

Description

Performs basic nursing care; performs basic emergency and CPR procedures; takes and records vital signs; collects specimens; performs phlebotomy and IV insertions; under direction, administers medication; identifies the basic elements and functions of the circulatory, respiratory, digestive, urogenital, musculoskeletal, and nervous systems; keeps medical department equipment and spaces clean and sanitary; performs routine clerical duties of the ward; promotes patient wellness.

Recommendation

In the lower-division baccalaureate/associate degree category, 1 semester hour in cardiopulmonary resuscitation, 1 in infection control procedures, 2 in health and wellness, 2 in phlebotomy procedures, 3 in nursing procedures, 4 in clinical nursing practice, 3 in emergency medical procedures, and 1 in medical terminology. Credit for Hospitalman (HN) should be granted only after pay grade E-3 has been achieved (5/93).

NER-HT-002

HULL MAINTENANCE TECHNICIAN
HT3
HT2
HT1
HTC
HTCS
HTCM

Exhibit Dates: 1/90–10/97.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *HT3:* Hull Maintenance Technician, Third Class (E-4). *HT2:* Hull Maintenance Technician, Second Class (E-5). *HT1:* Hull Maintenance Technician, First Class (E-6). *HTC:* Chief Hull Maintenance Technician (E-7). *HTCS:* Senior Chief Hull Maintenance Technician (E-8). *HTCM:* Master Chief Hull Maintenance Technician (E-9).

Description

Summary: Performs repairs to the ship's hull, plumbing and piping systems, and structural members. *HT3:* Performs brazing, electrical arc welding, oxyacetylene welding and cutting, and MIG/TIG welding; repairs ship plumbing and piping systems; fabricates damage control patches, sheet metal ducting, brackets, ladders, and platforms; controls discharging and pumping of waste in restricted water; completes maintenance data forms; orders repairs parts and tools. *HT2:* Able to perform the duties required for HT3; performs gas-free testing of voids and compartments to ensure safe entry; performs repairs to ship structure using heavy gauge metal; completes maintenance reports; inventories installed equipment. *HT1:* Able to perform the duties required for HT2; organizes and supervises damage repair parties; prepares training records; reviews completed maintenance data forms; prepares weekly maintenance schedules. *HTC:* Able to perform the duties required for HT1; plans and conducts damage repair exercises; maintains shop records and prepares progress reports; supervises training programs; estimates time, personnel, and material requirements; prepares quarterly maintenance schedules; supervises a hull maintenance technician shop. *HTCS:* Able to perform the duties required for HTC; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence; organizes and evaluates training programs; administers a long-range planned maintenance program. *HTCM:* Able to perform the duties required for HTCS; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, HT3

In the lower-division baccalaureate/associate degree category, 2 semester hours in oxyacetylene welding, 2 in arc welding, 2 in MIG/TIG welding, 2 in plumbing and pipefitting, 1 in blueprint reading, and 1 in maintenance technology (3/90).

Recommendation, HT2

In the lower-division baccalaureate/associate degree category, 3 semester hours in oxyacetylene welding, 3 in arc welding, 3 in MIG/TIG welding, 3 in plumbing and pipefitting, 2 in blueprint reading, 2 in maintenance technology, and 1 in record keeping (3/90).

Recommendation, HT1

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology, 1 in record keeping, 2 in principles of supervision, and 2 in maintenance management (3/90).

Recommendation, HTC

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology, 2 in record keeping, 3 in principles of supervision, and 3 in maintenance management (3/90).

Recommendation, HTCS

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology, 2 in record keeping, 3 in principles of supervision, and 4 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, HTCM

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology, 2 in record keeping, 3 in principles of supervision, and 5 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (3/90).

NER-HT-003

HULL TECHNICIAN
HT3
HT2
HT1
HTC
HTCS
HTCM

Exhibit Dates: 11/97–Present.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *HT3:* Hull Technician, Third Class (E-4). *HT2:* Hull Technician, Second Class (E-5). *HT1:* Hull Technician, First Class (E-6). *HTC:* Chief Hull Technician (E-7). *HTCS:* Senior Chief Hull Technician (E-8). *HTCM:* Master Chief Hull Technician (E-9).

Description

Summary: Performs repairs to the ship's hull, plumbing and piping systems, and structural members. *HT3:* Performs brazing, electrical arc welding, oxyacetylene welding and cutting, and MIG/TIG welding; repairs ship plumbing and piping systems; fabricates damage control patches, sheet metal ducting, brackets, ladders, and platforms; completes maintenance data forms; orders repair parts and tools; maintains shipboard sewage systems. *HT2:* Able to perform the duties required for HT3; performs gas-free testing of voids and compartments to ensure safe entry; performs repairs to ship structure using heavy gauge metal; completes maintenance reports; inspects and repairs installed equipment. *HT1:* Able to perform the duties required for HT2; organizes and supervises damage repair parties; prepares training records; reviews completed maintenance data forms; prepares weekly maintenance schedules. *HTC:* Able to perform the duties required for HT1; plans and conducts damage repair exercises; maintains shop records and prepares progress reports; supervises training programs; estimates time, personnel, and material requirements; prepares quarterly maintenance schedules; supervises a hull maintenance technician shop. *HTCS:* Able to perform the duties required for HTC; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence; organizes and evaluates training programs; administers a long-range planned maintenance program. *HTCM:* Able to perform the duties required for HTCS; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, HT3

In the lower-division baccalaureate/associate degree category, 2 semester hours in oxyacetylene welding, 2 in arc welding, 2 in MIG/TIG welding, 2 in plumbing and pipefitting, 1 in blueprint reading, 1 in applied computer technology, and 1 in maintenance technology (preventive) (11/97).

Recommendation, HT2

In the lower-division baccalaureate/associate degree category, 3 semester hours in oxyacetylene welding, 3 in arc welding, 3 in MIG/TIG welding, 3 in plumbing and pipefitting, 2 in blueprint reading, 2 in maintenance technology (preventive), and 2 in applied computer technology (11/97).

Recommendation, HT1

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology (preventive), 2 in personnel supervision, 3 in applied computer technology, and 2 in maintenance management (11/97).

Recommendation, HTC

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology (preventive), 3 in personnel supervision, 3 in applied computer technology, and 3 in maintenance management (11/97).

Recommendation, HTCS

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology (preventive), 3 in personnel supervision, 3 in applied computer technology, and 4 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (11/97).

Recommendation, HTCM

In the lower-division baccalaureate/associate degree category, 4 semester hours in oxyacetylene welding, 4 in arc welding, 4 in MIG/TIG welding, 4 in plumbing and pipefitting, 2 in blueprint reading, 3 in maintenance technology (preventive), 3 in personnel supervision, 3 in applied computer technology, and 5 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (11/97).

NER-IC-001

INTERIOR COMMUNICATIONS ELECTRICIAN
IC3
IC2
IC1
ICC
ICCS

Exhibit Dates: 1/90–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *IC3:* Interior Communications Electrician, Third Class (E-4). *IC2:* Interior Communications Electrician, Second Class (E-5). *IC1:* Interior Communications Electrician, First Class (E-6). *ICC:* Chief Interior Communications Electrician (E-7). *ICCS:* Senior Chief Interior Communications Electrician (E-8). *EMCM:* Master Chief Electrician's Mate (E-9).

Description

Summary: Operates and performs maintenance on voice interior communications systems, alarm systems, warning systems, ship's control systems, plotting systems, gyrocompass systems, and entertainment systems. *IC3:* Operates standard test and metering equipment, including multimeter, voltmeter, ammeter, ohmmeter, oscilloscope, signal generator, frequency meter, vacuum tube voltmeter, and megger; makes standard wire splices; tests and operates alarm and indicating systems; troubleshoots and repairs synchro systems; inspects, tests, maintains, charges, and replaces batteries; repairs components of general announcing systems and sound-powered telephone systems; cleans and inspects plotters and dead reckoning equipment; tests external circuits of interior communications equipment for continuity, short circuits, and grounds and measures electrical quantities; reads and interprets schematic diagrams and blueprints of basic electrical, electronic, and logic circuits. *IC2:* Able to perform the duties required for IC3; troubleshoots and repairs ship's metering, alarm, and indicating systems; troubleshoots and repairs synchro-amplifiers, servo systems, and tape recorders/producers; maintains microfiche readers/printers; isolates and repairs malfunctions in common electronic circuits; inspects and cleans commutators and adjusts brushes on motors and generators; inventories installed equipment and spare parts; may supervise up to three third class Interior Communications Electricians. *IC1:* Able to perform the duties required for IC2; isolates troubles in dead-reckoning systems including gyrocompass; tests, replaces, and adjusts components on the interior communication and local switchboards; determines types of acceptable substitute components; checks operating logs and maintenance records; prepares weekly maintenance schedules; may supervise up to five Interior Communications Electricians. *ICC:* Able to perform the duties required for IC1; analyzes and evaluates electrical and electronic tests; adjusts, calibrates, and repairs interior communications equipment; plans, organizes, and directs work of personnel operating and maintaining interior communications systems; estimates time, materials, and labor required for repair of equipment. *ICCS:* Able to perform the duties required for ICC; advises on the opening and inspection of equipment and preparation of work request; provides information and advises on utilization, capabilities, reliability, and operations; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel; administers a long-range planned maintenance program.

Recommendation, IC3

In the vocational certificate category, 5 semester hours in basic electricity/electronics, 4 in troubleshooting techniques, 5 in electrical/electronic circuits, and 4 in electrical/mechanical systems. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics, 2 in electrical/electronics laboratory, 2 in troubleshooting techniques, 3 in electrical/electronic circuits, 3 in electrical/

mechanical systems, and 2 in applied mathematics (10/87).

Recommendation, IC2

In the vocational certificate category, 5 semester hours in basic electricity/electronics, 6 in troubleshooting techniques, 6 in electrical/electronic circuits, and 4 in electrical/mechanical systems. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics, 2 in electrical/electronics laboratory, 2 in troubleshooting techniques, 3 in electrical/electronic circuits, 3 in electrical/mechanical systems, 2 in applied mathematics, and 1 in digital electronics; if assigned to gas turbine propulsion systems, credit in gas turbine technology on the basis of institutional evaluation (10/87).

Recommendation, IC1

In the vocational certificate category, 5 semester hours in basic electricity/electronics, 8 in troubleshooting techniques, 6 in electrical/electronic circuits, and 4 in electrical/mechanical systems. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics, 2 in electrical/electronics laboratory, 2 in troubleshooting techniques, 3 in electrical/electronic circuits, 3 in electrical/mechanical systems, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 2 in maintenance management, and 2 in personnel supervision; if assigned to gas turbine propulsion systems, credit in gas turbine technology on the basis on institutional evaluation. In the upper-division baccalaureate category, 3 semester hours in electrical circuits (10/87).

Recommendation, ICC

In the vocational certificate category, 5 semester hours in basic electricity/electronics, 8 in troubleshooting techniques, 6 in electrical/electronic circuits, and 4 in electrical/mechanical systems. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics, 2 in electrical/electronics laboratory, 2 in troubleshooting techniques, 3 in electrical/electronic circuits, 3 in electrical/mechanical systems, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 3 in maintenance management, 3 in personnel supervision, 1 in record keeping, and 1 in report writing; if assigned to gas turbine propulsion systems, credit in gas turbine technology on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours in electrical circuits (10/87).

Recommendation, ICCS

In the vocational certificate category, 5 semester hours in basic electricity/electronics, 8 in troubleshooting techniques, 6 in electrical/electronic circuits, and 4 in electrical/mechanical systems. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics, 2 in electrical/electronics laboratory, 2 in troubleshooting techniques, 3 in electrical/electronic circuits, 3 in electrical/mechanical systems, 2 in applied mathematics, 2 in digital electronics, 3 in human relations, 3 in maintenance management, 3 in personnel supervision, 1 in record keeping, and 1 in report writing; if assigned to gas turbine propulsion systems, credit in gas turbine technology on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours in electrical circuits, 3 for field experience in management, and 3 in management problems (10/87).

NER-IM-002

INSTRUMENTMAN
IM3
IM2
IM1
IMC
IMCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

SN: Seaman (E-3). *IM3:* Instrumentman, Third Class (E-4). *IM2:* Instrumentman, Second Class (E-5). *IM1:* Instrumentman, First Class (E-6). *IMC:* Chief Instrumentman (E-7). *IMCS:* Senior Chief Instrumentman (E-8). *PICM:* Master Chief Opticalman (E-9).

Description

Summary: Performs maintenance on mechanical instruments, office machines, and Navy timepieces and implements mechanical instrument repair and calibration shop procedures. *IM3:* Uses schematic diagrams; prepares sketches of mechanical parts; manufactures and maintains instrument repair and calibration tools; brazes brass and steel; tempers, hardens, and anneals metals; determines nominal value of measuring instruments and related test equipment; calibrates and adjusts pressure instruments and vacuum measuring instruments, centrifugal tachometers, bimetallic thermometers, and torque measuring tools; completes correct forms, labels, and tags during calibration; disassembles, cleans, lubricates, and repairs measurement devices and performs casualty analysis; exercises precautions and safety procedures to prevent contamination of oxygen and nitrogen test instruments; operates demagnetizers; reassembles, adjusts, and repairs various types of office equipment. *IM2:* Able to perform the duties required for IM3; calibrates and adjusts flow, temperature, pressure, and level instruments; adjusts and repairs electric typewriters; operates and maintains jeweler's lathe and attachments; completes maintenance reports; prepares and maintains shop work records; inventories installed equipment; orders repair parts and special tools. *IM1:* Able to perform the duties required for IM2; calibrates resistance thermometer indicators and pressure working standards; calibrates and adjusts liquid level indicators, absolute pressure gages, hydraulic, remote reading, and liquid level systems, and thermocouple and resistance thermometer systems; supervises repair of watches and clocks; disassembles cash registers and liquid, thermal, and coated paper reproduction equipment; instructs personnel; ensures that Navy calibration procedures are current; prepares preventive maintenance schedules; plans and supervises report work. *IMC:* Able to perform the duties required for IM1; directs operations and repair of test equipment in instrument repair work center; supervises operation and use of office machine test equipment and special tools; manages the maintenance, calibration, and repair of jeweled instruments and the maintenance, repair, procurement, and utilization of all parts and machines in stock; informs supervisors about new developments and procedures pertaining to precision measuring instruments and design, use, and support of office equipment; instructs personnel in techniques and procedures of repair of temperature, fluid, and flow measuring instruments, watches, clocks, and office machines; prepares quarterly maintenance schedules; supervises maintenance, repair and calibration activities; disassembles, cleans, reassembles, adjusts, and repairs rotary and electronic calculators and dual spectrum and electrostatic reproduction equipment. *IMCS:* Able to perform the duties required for IMC; prepares directives and instructions for attaining organizational objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; administers repair and maintenance records; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements; coordinates quality assurance audits; coordinates and prepares work estimates; directs quality assurance program; administers a long-range maintenance program.

Recommendation, IM3

In the vocational certificate category, 1 semester hour in office machine repair. In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 2 in machine tool operation, 2 in instrumentation technology, and 1 in record keeping (3/90).

Recommendation, IM2

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 3 in machine tool operation, 4 in instrumentation technology, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, IM1

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 2 in maintenance management, 2 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, IMC

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision (3/90).

Recommendation, IMCS

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

NER-IM-003

INSTRUMENTMAN
IM3
IM2
IM1
IMC
IMCS
IMCM

Exhibit Dates: 1/91–Present.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

SN: Seaman (E-3). *IM3:* Instrumentman, Third Class (E-4). *IM2:* Instrumentman, Second Class (E-5). *IM1:* Instrumentman, First Class (E-6). *IMC:* Chief Instrumentman (E-7). *IMCS:* Senior Chief Instrumentman (E-8). *IMCM:* Master Chief Instrumentman (E-9).

Description

Summary: Performs maintenance on mechanical instruments, office machines, and Navy timepieces and implements mechanical instrument repair and calibration shop procedures. *IM3:* Uses schematic diagrams; prepares sketches of mechanical parts; manufactures and maintains instrument repair and calibration tools; brazes brass and steel; tempers, hardens, and anneals metals; determines nominal value of measuring instruments and related test equipment; calibrates and adjusts pressure instruments and vacuum measuring instruments, centrifugal tachometers, bimetallic thermometers, and torque measuring tools; completes correct forms, labels, and tags during calibration; disassembles, cleans, lubricates, and repairs measurement devices and performs casualty analysis; exercises precautions and safety procedures to prevent contamination of oxygen and nitrogen test instruments; operates demagnetizers; reassembles, adjusts, and repairs various types of office equipment. *IM2:* Able to perform the duties required for IM3; calibrates and adjusts flow, temperature, pressure, and level instruments; adjusts and repairs electric typewriters; operates and maintains jeweler's lathe and attachments; completes maintenance reports; prepares and maintains shop work records; inventories installed equipment; orders repair parts and special tools. *IM1:* Able to perform the duties required for IM2; calibrates resistance thermometer indicators and pressure working standards; calibrates and adjusts liquid level indicators, absolute pressure gages, hydraulic, remote reading, and liquid level systems, and thermocouple and resistance thermometer systems; supervises repair of watches and clocks; disassembles cash registers and liquid, thermal, and coated paper reproduction equipment; instructs personnel; ensures that Navy calibration procedures are current; prepares preventive maintenance schedules; plans and supervises report work. *IMC:* Able to perform the duties required for IM1; directs operations and repair of test equipment in instrument repair work center; supervises operation and use of office machine test equipment and special tools; manages the maintenance, calibration, and repair of jeweled instruments and the maintenance, repair, procurement, and utilization of all parts and machines in stock; informs supervisors about new developments and procedures pertaining to precision measuring instruments and design, use, and support of office equipment; instructs personnel in techniques and procedures of repair of temperature, fluid, and flow measuring instruments, watches, clocks, and office machines; prepares quarterly maintenance schedules; supervises maintenance, repair and calibration activities; disassembles, cleans, reassembles, adjusts, and repairs rotary and electronic calculators, dual spectrum and electrostatic reproduction equipment. *IMCS:* Able to perform the duties required for IMC; prepares directives and instructions for attaining organizational objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; administers repair and maintenance records; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements; coordinates quality assurance audits; coordinates and prepares work estimates; directs quality assurance program; administers a long-range maintenance program. *IMCM:* Able to perform the duties required for IMCS; develops procedures for conducting safety programs and monitoring compliance; plans, organizes, implements, and controls activities in accordance with policies and directives; forecasts future requirements; establishes goals, objectives, and priorities; reviews personnel, equipment, and material requirements; assists in the management of records; coordinates liaison between repair activities and ship or shipyard; manages repair division; schedules repair work; develops operating budgets and monitors expenditures.

Recommendation, IM3

In the vocational certificate category, 1 semester hour in office machine repair. In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 2 in machine tool operation, 2 in instrumentation technology, and 1 in record keeping (3/90).

Recommendation, IM2

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 3 in machine tool operation, 4 in instrumentation technology, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, IM1

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 2 in maintenance management, 2 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, IMC

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision (3/90).

Recommendation, IMCS

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, IMCM

In the vocational certificate category, 2 semester hours in office machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 6 in instrumentation technology, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/90).

NER-IS-001

INTELLIGENCE SPECIALIST
IS3
IS2
IS1
ISC
ISCS
ISCM

Exhibit Dates: 1/90–2/94.

Occupational Field: 22 (Intelligence).

Career Pattern

SN: Seaman (E-3). *IS3:* Intelligence Specialist, Third Class (E-4). *IS2:* Intelligence Specialist, Second Class (E-5). *IS1:* Intelligence Specialist, First Class (E-6). *ISC:* Chief Intelligence Specialist (E-7). *ISCS:* Senior Chief Intelligence Specialist (E-8). *ISCM:* Master Chief Intelligence Specialist (E-9).

Description

Summary: Collects, processes, and disseminates intelligence by performing analytical and administrative duties; identifies and produces intelligence from raw information; assembles and analyzes multisource operational intelligence in support of intelligence briefing, reporting, and analytical programs; prepares and presents intelligence briefings; prepares material for use in planning and photographic reconnaissance missions; prepares graphics, including annotated photographs, mosaics, and overlays; plots and prepares multisensor imagery and intelligence reports; provides input to and receives data from computerized intelligence systems; maintains files, including photographs, maps and charts, and photographic interpretation keys; maintains and updates intelligence libraries. NOTE: Many of the duties for this rating involve highly classified materials and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *IS3:* Files and controls intelligence reports; recognizes aerial camera capabilities; has knowledge of basic geopolitical background of assigned areas; prepares graphics; uses basic photographic interpretation instruments; employs photogrammetry skills; plots remotely sensed data; prepares mosaics and stereopairs; selects and uses photographic interpretation keys; uses topographic and cultural map symbols, distances, and scales; uses computer formats; applies basic fundamentals of radar interpretation; operates and maintains office and audiovisual equipment; performs general office duties; prepares photographic interpretation reports; assists in preparation of intelligence information reports. *IS2:* Able to perform the duties required for IS3; analyzes data to produce information; develops data from nonphotographic sensors including infrared and side-looking radar. *IS1:* Able to perform the duties required for IS2; conducts briefings; plans and organizes small working groups; prepares intelligence information reports. *ISC:* Able to perform the duties required for IS1; supervises preparations of reports; conducts liaison with other agencies; applies office management concepts and skills; directs and controls administrative procedures of a division. *ISCS:* Able to perform the duties required for ISC; manages mission planning and evaluates performance of staff; directs administrative staff functions; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements. *ISCM:* Able to perform the duties required for ISCS; plans, organizes, implements, and controls activities in compliance with policy, orders, and directives; forecasts requirements and establishes goals, objectives, and priorities; reviews personnel and equipment requirements; advises superiors on regulations, procedures, and practices; develops administrative and executive department directives, regulations, and procedures; develops operating budgets and monitors expenditures.

Recommendation, IS3

In the vocational certificate category, 3 semester hours in applied mathematics, 2 in drafting and design, 3 in technical writing, and 3 in office practices. In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and dark room techniques, 3 in introduction to computer concepts, 3 in introduction to maps and aerial photographs, and 3 in general cultural geography. In the upper-division baccalaureate category, 3 semester hours in area studies, 3 in aerial photographic interpretation, and 3 in photogrammetry (9/80).

Recommendation, IS2

In the vocational certificate category, 3 semester hours in applied mathematics, 2 in drafting and design, 3 in technical writing, and 3 in office practices. In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and dark room techniques, 3 in introduction to computer concepts, 3 in introduction to maps and aerial photographs, and 3 in general cultural geography. In the upper-division baccalaureate category, 3 semester hours in area studies, 3 in aerial photographic interpretation, and 3 in photogrammetry (9/80).

Recommendation, IS1

In the vocational certificate category, 3 semester hours in applied mathematics, 2 in drafting and design, 3 in technical writing, and 3 in office practices. In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and dark room techniques, 3 in introduction to computer concepts, 3 in introduction to maps and aerial photographs, 3 in general cultural geography, 3 in public speaking, and 3 in principles and practices of personnel management. In the upper-division baccalaureate category, 3 semester hours in area studies, 3 in aerial photographic interpretation, and 3 in photogrammetry (9/80).

Recommendation, ISC

In the vocational certificate category, 3 semester hours in applied mathematics, 2 in drafting and design, 3 in technical writing, and 3 in office practices. In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and dark room techniques, 3 in introduction to computer concepts, 3 in introduction to maps and aerial photographs, 3 in general cultural geography, 3 in public speaking, 3 in principles and practices of personnel management, and 3 in office management. In the upper-division baccalaureate category, 3 semester hours in area studies, 3 in aerial photographic interpretation, 3 in photogrammetry, and 3 in principles of management (9/80).

Recommendation, ISCS

In the vocational certificate category, 3 semester hours in applied mathematics, 2 in drafting and design, 3 in technical writing, and 3 in office practices. In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and dark room techniques, 3 in introduction to computer concepts, 3 in introduction to maps and aerial photographs, 3 in general cultural geography, 3 in public speaking, 3 in principles and practices of personnel management, and 3 in office management. In the upper-division baccalaureate category, 3 semester hours in area studies, 3 in aerial photographic interpretation, 3 in photogrammetry, 3 in principles of management, 3 in management problems, 3 for a practicum in management, and 3 in techniques of information analysis on the basis of institutional evaluation (9/80).

Recommendation, ISCM

In the vocational certificate category, 3 semester hours in applied mathematics, 2 in drafting and design, 3 in technical writing, and 3 in office practices. In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and dark room techniques, 3 in introduction to computer concepts, 3 in introduction to maps and aerial photographs, 3 in general cultural geography, 3 in public speaking, 3 in principles and practices of personnel management, and 3 in office management. In the upper-division baccalaureate category, 3 semester hours in area studies, 3 in aerial photographic interpretation, 3 in photogrammetry, 3 in principles of management, 3 in management problems, 6 for a practicum in management, and 3 in techniques of information analysis on the basis institutional evaluation (9/80).

NER-IS-002

INTELLIGENCE SPECIALIST
IS3
IS2
IS1
ISC
ISCS
ISCM

Exhibit Dates: 3/94–1/96.

Occupational Field: 22 (Intelligence).

Career Pattern

SN: Seaman (E-3). *IS3:* Intelligence Specialist, Third Class (E-4). *IS2:* Intelligence Specialist, Second Class (E-5). *IS1:* Intelligence Specialist, First Class (E-6). *ISC:* Chief Intelligence Specialist (E-7). *ISCS:* Senior Chief Intelligence Specialist (E-8). *ISCM:* Master Chief Intelligence Specialist (E-9).

Description

Summary: Collects, processes, and disseminates intelligence by performing analytical and administrative duties; identifies and produces intelligence from raw information; assembles and analyzes multisource operational intelligence in support of intelligence briefing, reporting, and analytical programs; prepares and presents intelligence briefings; prepares material for use in planning and photographic reconnaissance missions; prepares graphics, including annotated photographs, mosaics, and overlays; plots and prepares multisensor imagery and intelligence reports; provides input to and receives data from computerized intelligence systems; maintains files, including photographs, maps and charts, and photographic interpretation keys; maintains and updates intelligence libraries. NOTE: Many of the duties for this rating involve highly classified materials and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *IS3:* Files and controls intelligence reports; recognizes aerial camera capabilities; has knowledge of basic political background of assigned areas; prepares graphics; uses basic photographic interpretation instruments; employs photogrammetry skills; plots remotely sensed data; prepares mosaics and stereopairs; selects and uses photographic interpretation keys; uses topographic and cultural map symbols, distances, and scales; uses computer formats; applies basic fundamentals of radar interpretation; operates and maintains office and audiovisual equipment; performs general office duties; prepares photographic interpretation reports; assists in preparation of intelligence information reports. *IS2:* Able to perform the duties required for IS3; analyzes data to produce information; develops data from nonphotographic sensors including infrared and side-looking radar. *IS1:* Able to perform the duties required for IS2; conducts briefings; plans and organizes small working groups; prepares intelligence information reports. *ISC:* Able to perform the duties required for IS1; supervises preparation of reports; conducts liaison with other agencies; applies office management concepts and skills; directs and controls administrative procedures of a division. *ISCS:* Able to perform the duties required for ISC; manages mission planning and evaluates performance of staff; directs administrative staff functions; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements. *ISCM:* Able to perform the duties required for ISCS; plans, organizes, implements, and controls activities in compliance with policy, orders, and directives; forecasts requirements and establishes goals, objectives, and priorities; reviews personnel and equipment requirements; advises superiors on regulations, procedures, and practices; develops administrative and executive department directives, regulations, and procedures; develops operating budgets and monitors expenditures.

Recommendation, IS3

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and darkroom techniques, 3 in computer concepts, 3 in critical thinking, 3 in technical writing, 3 in records and information management, 3 in introduction to maps and air photos or displays of geographic information, 3 in introduction to physical geography, 3 in introduction to cultural geography, and 3 in fundamentals of public address. In the upper-division baccalaureate category, 3 semester hours in aerial photographic interpretation, 3 in photogrammetry, and 3 in geographic information systems (3/94).

Recommendation, IS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and darkroom techniques, 3 in computer concepts, 3 in critical thinking, 3 in technical writing, 3 in records and information management, 3 in introduction to maps and air photos or displays of geographic information, 3 in introduction to physical geography, 3 in introduction to cultural geography, and 3 in fundamentals of public address. In the upper-division baccalaureate category, 3 semester hours in aerial photographic interpretation, 3 in photogrammetry, and 3 in geographic information systems (3/94).

Recommendation, IS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and darkroom techniques, 3 in computer concepts, 3 in critical thinking, 3 in technical writing, 3 in records and information management, 3 in introduction to maps and air photos or displays of geographic information, 3 in introduction to physical geography, 3 in introduction to cultural geography, 3 in fundamentals of public address, and 2 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in aerial photographic interpretation, 3 in photogrammetry, and 3 in geographic information systems (3/94).

Recommendation, ISC

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and darkroom techniques, 3 in computer concepts, 3 in critical thinking, 3 in technical writing, 3 in records and information management, 3 in introduction to maps and air photos or displays of geographic information, 3 in introduction to physical geography, 3 in introduction to cultural geography, 3 in fundamentals of public address, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in aerial photographic interpretation, 3 in photogrammetry, 3 in geographic information systems, and 3 in information management systems (3/94).

Recommendation, ISCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and darkroom techniques, 3 in computer concepts, 3 in critical thinking, 3 in technical writing, 3 in records and information management, 3 in introduction to maps and air photos or displays of geographic information, 3 in introduction to physical geography, 3 in introduction to cultural geography, 3 in fundamentals of public address, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in aerial photographic interpretation, 3 in photogrammetry, 3 in geographic information systems, 3 in information management systems, and 3 for field experience in management (3/94).

Recommendation, ISCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical mathematics, 3 in basic photography and darkroom techniques, 3 in computer concepts, 3 in critical thinking, 3 in technical writing, 3 in records and information management, 3 in introduction to maps and air photos or displays of geographic information, 3 in introduction to physical geography, 3 in introduction to cultural geography, 3 in fundamentals of public address, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in aerial photographic interpretation, 3 in photogrammetry, 3 in geographic information systems, 3 in information management systems, 3 for field experience in management, 3 in organizational management, and 3 in management problems (3/94).

NER-IS-003

INTELLIGENCE SPECIALIST

IS3
IS2
IS1
ISC
ISCS
ISCM

Exhibit Dates: 2/96–Present.

Occupational Field: 22 (Intelligence).

Career Pattern

SN: Seaman (E-3). *IS3:* Intelligence Specialist, Third Class (E-4). *IS2:* Intelligence Specialist, Second Class (E-5). *IS1:* Intelligence Specialist, First Class (E-6). *ISC:* Chief Intelligence Specialist (E-7). *ISCS:* Senior Chief Intelligence Specialist (E-8). *ISCM:* Master Chief Intelligence Specialist (E-9).

Description

Summary: Collects, processes, and disseminates intelligence by performing analytical and administrative duties; identifies and produces intelligence from raw information; assembles and analyzes multisource operational intelligence in support of intelligence briefing, reporting, and analytical programs; prepares and presents intelligence briefings; prepares material for use in planning and photographic reconnaissance missions; prepares graphics, including annotated photographs, mosaics, and overlays; plots and prepares multisensor imagery and intelligence reports; provides input to and receives data from computerized intelligence systems; maintains files, including photographs, maps and charts, and photographic interpretation keys; maintains and updates intelligence libraries. NOTE: Many of the duties for this rating involve highly classified materials and activities; therefore, not all the competencies and knowledge associated with the rating were evaluated. *IS3:* Files and controls intelligence reports; recognizes aerial camera capabilities; has knowledge of basic political background of assigned areas; prepares graphics; uses basic photographic interpretation instruments; employs photogrammetry skills; plots remotely sensed data; prepares mosaics and stereopairs; selects and uses photographic interpretation keys; uses topographic and cultural map symbols, distances, and scales; uses computer formats; applies basic fundamentals of radar interpretation; operates and maintains office and audiovisual equipment; performs general office duties; prepares photographic interpretation reports; assists in preparation of intelligence information reports; forecasts potential world-wide missions; uses computer technology significantly. *IS2:* Able to perform the duties required for IS3; analyzes data to produce information; develops data from nonphotographic sensors including infrared and side-looking radar. *IS1:* Able to perform the duties required for IS2; conducts briefings; plans and organizes small working groups; prepares intelligence information reports. *ISC:* Able to perform the duties required for IS1; supervises preparation of reports; conducts liaison with other agencies; applies office management concepts and skills; directs and controls administrative procedures of a division. *ISCS:* Able to perform the duties required for ISC; manages mission planning and evaluates performance of staff; directs administrative staff functions; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements. *ISCM:* Able to perform the duties required for ISCS; plans, organizes, implements, and controls activities in compliance with policy, orders, and directives; forecasts requirements and establishes goals, objectives, and priorities; reviews personnel and equipment requirements; advises superiors on regulations, procedures, and practices; develops administrative and executive department directives, regulations, and procedures; develops operating budgets and monitors expenditures.

Recommendation, IS3

In the lower-division baccalaureate/associate degree category, 1 semester hour in technical math, 2 in survey of geography, 1 in applied computers, 1 in public speaking, 1 in technical writing, 1 in photogrammetry, 1 in records and information management, and 1 in photography (2/96).

Recommendation, IS2

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical math, 3 in survey of geography, 2 in applied computers, 2 in public speaking, 2 in technical writing, 2 in photogrammetry, 2 in records and information management, and 2 in photography (2/96).

Recommendation, IS1

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical math, 3 in survey of geography, 3 in applied computers, 3 in public speaking, 3 in technical writing, 3 in photogrammetry, 3 in records and information management, 3 in photography, and 3 in personnel supervision (2/96).

Recommendation, ISC

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical math, 3 in survey of geography, 3 in applied computers, 3 in public speaking, 3 in technical writing, 3 in photogrammetry, 3 in records and information management, 3 in photography, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in information management systems and 3 for field experience in management (2/96).

Recommendation, ISCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical math, 3 in survey of geography, 3 in applied computers, 3 in public speaking, 3 in technical writing, 3 in photogrammetry, 3 in records and information management, 3 in photography, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in information management systems and 3 for field experience in management (2/96).

Recommendation, ISCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in technical math, 3 in survey of geography, 3 in applied computers, 3 in public speaking, 3 in technical writing, 3 in photogrammetry, 3 in records and information management, 3 in photography, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours in information management systems and 6 for field experience in management (2/96).

NER-JO-002

JOURNALIST
JO3
JO2
JO1
JOC
JOCS
JOCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *JO3:* Journalist, Third Class (E-4). *JO2:* Journalist, Second Class (E-5). *JO1:* Journalist, First Class (E-6). *JOC:* Chief Journalist (E-7). *JOCS:* Senior Chief Journalist (E-8). *JOCM:* Master Chief Journalist (E-9).

Description

Summary: Supervises or participates in the administration of public affairs activities. *JO3:* Researches and writes news releases and feature articles; covers news events; processes news photographs and writes captions; creates and produces material for broadcast use; serves on the staff of American Forces Radio/TV (AFRT) stations; prepares official correspondence and directives; assists in speech writing and presentations on naval topics; prepares and lays out Navy publications including newspaper and information brochures; prepares art work and layouts for various publications; operates audio and videotape equipment; drafts correspondence; edits news copy and news releases; writes scripts and prepares visual material for radio and television programs; announces radio programs and conducts interviews; takes and processes news photographs; organizes, edits, and administers a ship or shore station newspaper; researches and prepares feature articles for naval and commercial use; writes feature material for radio and television; administers a shipboard AFRT station. *JO2:* Able to perform the duties required for JO3; conducts inventories and maintains custody records; administers a radio/television programming section; performs as television director for live and taped television production. *JO1:* Able to perform the duties required for JO2; conducts and arranges news conferences; prepares slide presentations; develops public affairs plans for either a ship or small shore station; prepares and conducts audience surveys; trains and supervises personnel. *JOC:* Able to perform the duties required for JO1; manages a public affairs office; plans, establishes, and coordinates special events; prepares cost estimates for command public affairs programs; coordinates news coverage of a major event; prepares cost estimates for command public affairs programs; coordinates news coverage of a major event; administers a shore AFRT station. *JOCS:* Able to perform the duties required for JOC; plans administrative public affairs procedures; formulates media liaison activities; evaluates performance and utilization of personnel; organizes, schedules, and evaluates training programs. *JOCM:* Able to perform the duties required for JOCS; prepares a community relations study; analyzes effectiveness of public affairs activities at the command level; reviews personnel, equipment, and material requirements; develops and monitors operating budgets.

Recommendation, JO3

In the lower-division baccalaureate/associate degree category, 3 semester hours in news editing, 3 in news reporting, and 3 in writing for mass media; if NEC was JO-3221, Radio-TV Specialist, an additional 3 semester hours in audiovisual technology, 3 in announcing, 3 in studio techniques, and 3 in radio/TV production techniques; if NEC was JO-8148, Photojournalist, an additional 3 semester hours in photography and 3 in layout (3/79).

Recommendation, JO2

In the lower-division baccalaureate/associate degree category, 3 semester hours in news editing, 3 in news reporting, 3 in writing for mass media, 3 in technical writing, 3 in interviewing techniques, and 3 for field experience in public affairs; if NEC was JO-3221, Radio-TV Specialist, an additional 3 semester hours in audiovisual technology, 3 in announcing, 3 in studio techniques, and 6 in radio/television production techniques; if NEC was JO-8148, Photojournalist, an additional 6 semester hours in photography and 3 in layout (3/79).

Recommendation, JO1

In the lower-division baccalaureate/associate degree category, 3 semester hours in news editing, 3 in news reporting, 3 in writing for mass media, 3 in audience analysis, 3 in technical writing, 3 in interviewing techniques, 3 for field experience in public affairs, 1 in speechwriting, 2 in human relations, and 2 in personnel supervision; if NEC was JO-3221, Radio-TV Specialist, an additional 3 semester hours in audiovisual technology, 3 in announcing, 3 in studio techniques, 6 in radio/television production techniques, and 3 in broadcasting news and public affairs; if NEC was JO-8148, Photojournalist, an additional 6 semester hours in photography and 3 in layout (3/79).

Recommendation, JOC

In the lower-division baccalaureate/associate degree category, 3 semester hours in news editing, 3 in news reporting, 3 in writing for mass media, 3 in audience analysis, 3 in technical writing, 3 in interviewing techniques, 3 for field experience in public affairs, 2 in speechwriting, 3 in human relations, 3 in personnel supervision, and 3 in office management; if NEC was JO-3221, Radio-TV Specialist, an additional 3 semester hours in audiovisual technology, 3 in announcing, 3 in studio techniques, 6 in radio/television production techniques, 3 in broadcasting news and public affairs, 3 in station management, and 3 for field experience in broadcast journalism; if NEC was JO-8148, Photojournalist, an additional 6 semester hours in photography, 3 in layout, and 3 for field experience in journalism (3/79).

Recommendation, JOCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in news editing, 3 in news reporting, 3 in writing for mass media, 3 in audience analysis, 3 in technical writing, 3 in interviewing techniques, 3 for field experience in public affairs, 2 in speechwriting, 3 in human relations, 3 in personnel supervision, and 3 in office management; if NEC was JO-3221, Radio-TV Specialist, an additional 3 semester hours in audiovisual technology, 3 in announcing, 3 in studio techniques, 6 in radio/television production techniques, 3 in broadcasting news and public affairs, 3 in station management, and 3 for field experience in broadcast journalism; if NEC was JO-8148, Photojournalist, an additional 3 semester hours in photography, 3 in layout, and 3 for field experience in journalism. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/79).

Recommendation, JOCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in news editing, 3 in news reporting, 3 in writing for mass media, 3 in audience analysis, 3 in technical writing, 3 in interviewing techniques, 3 for field experience in public affairs, 2 in speechwriting, 3 in human relations, 3 in personnel supervision, and 3 in office management; if NEC was JO-3221, Radio-TV Specialist, an additional 3 semester hours in audiovisual technology, 3 in announcing, 3 in studio techniques, 6 in radio/television production techniques, 3 in broadcasting news and public affairs, 3 in station management, and 3 for field experience in broadcast journalism; if NEC was JO-8148, Photojournalist, an additional 3 semester hours in photography, 3 in layout, and 3 for field experience in journalism. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/79).

NER-JO-003

JOURNALIST
JO3
JO2
JO1
JOC
JOCS
JOCM

Exhibit Dates: 1/91–11/97.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *JO3:* Journalist, Third Class (E-4). *JO2:* Journalist, Second Class (E-5). *JO1:* Journalist, First Class (E-6). *JOC:* Chief Journalist (E-7). *JOCS:* Senior Chief Journalist (E-8). *JOCM:* Master Chief Journalist (E-9).

Description

Summary: Participates in or supervises the administration of public affairs activities. *JO3:* Researches and writes news releases and feature articles; covers news events; processes news photographs and writes captions; creates and produces material for broadcast use; serves on the staff of American Forces Radio/TV (AFRT) stations; assists in speechwriting and presentations on naval topics; prepares and lays out Navy publications including newspaper and information brochures; prepares art work and layouts for various publications; operates audio and videotape equipment; drafts correspondence; edits news copy and news releases; writes scripts and prepares visual material for radio and television programs; announces radio programs and conducts interviews; organizes, edits, and administers a ship or shore station newspaper; administers a shipboard AFRT station. *JO2:* Able to perform the duties required for JO3; writes feature material for radio and television; conducts inventories and maintains custody records; administers a radio/television programming section; performs as television director for live and taped television production. *JO1:* Able to perform the duties required for JO2; conducts and arranges news conferences; prepares slide presentations; prepares and conducts audience surveys; trains and supervises personnel. *JOC:* Able to perform the duties required for JO1; develops public affairs plans for either a ship or small shore station; manages a public affairs office; plans, establishes, and coordinates special events; prepares cost estimates for command public affairs programs; coordinates news estimates for command public affairs programs; coordinates news coverage of a major event; administers a shore AFRT station. *JOCS:* Able to perform the duties required for JOC; plans administrative public affairs procedures; formulates media liaison activities; evaluates performance and utilization of personnel; organizes, schedules, and evaluates training programs. *JOCM:* Able to perform the duties required for JOCS; prepares community relations study; analyzes effectiveness of public affairs activities at the command level; reviews personnel, equipment, and material requirements; develops and monitors operating budgets.

Recommendation, JO3

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic news reporting, 2 in basic photography, 2 in broadcast news, 2 in broadcast production, 3 in radio announcing, and 1 in copy editing (6/91).

Recommendation, JO2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming (6/91).

Recommendation, JO1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in public relations writing, 3 in advanced broadcast production, 3 in personnel management, and 3 in media relations (6/91).

Recommendation, JOC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in public relations writing, 3 in advanced broadcast production, 3 in personnel management, 3 in media relations, 3 in station management, 3 in business administration, 3 in survey methods, and 3 in advanced media relations (6/91).

Recommendation, JOCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in public relations writing, 3 in advanced broadcast production, 3 in personnel management, 3 in media relations, 3 in station management, 3 in business administration, 3 in survey methods, 3 in advanced media relations, 3 in interpersonal communications, and 3 in broadcast regulations (6/91).

Recommendation, JOCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in public relations writing, 3 in advanced broadcast production, 3 in personnel management, 3 in media relations, 3 in station management, 3 in business administration, 3 in survey methods, 3 in advanced media relations, 3 in interpersonal communications, 3 in broadcast regulations, 3 in organizational management, 3 in public affairs planning, and 3 in public relations policy management (6/91).

NER-JO-004

JOURNALIST
- JO3
- JO2
- JO1
- JOC
- JOCS
- JOCM

Exhibit Dates: 12/97–Present.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *JO3:* Journalist, Third Class (E-4). *JO2:* Journalist, Second Class (E-5). *JO1:* Journalist, First Class (E-6). *JOC:* Chief Journalist (E-7). *JOCS:* Senior Chief Journalist (E-8). *JOCM:* Master Chief Journalist (E-9).

Description

Summary: Participates in or supervises the administration of public affairs activities. *JO3:* Researches and writes news releases and feature articles; covers news events; processes news photographs and writes captions; creates and produces material for broadcast use; serves on the staff of American Forces Radio/TV (AFRT) stations; assists in speechwriting and presentations on naval topics; prepares and lays out Navy publications including newspapers and information brochures; prepares art work and layouts for various publications; operates audio and videotape equipment; drafts correspondence; edits news copy and news releases; writes scripts and prepares visual material for radio and television programs; announces radio programs and conducts interviews; organizes, edits, and administers a ship or shore station newspaper; administers a shipboard AFRT station; performs tasks using computers and appropriate software. *JO2:* Able to perform the duties required for JO3; evaluates, designs, and directs video programming and production; markets stories to external media; provides information on public inquiries; conducts surveys; inventories audiovisual equipment; evaluates news worthiness. *JO1:* Able to perform the duties required for JO2; edits and proofreads magazine stories; writes speeches; coordinates media events; coordinates internal and external media news releases. *JOC:* Able to perform the duties required for JO1; develops public affairs plans for either a ship or small shore station; manages a public affairs office; plans, establishes, and coordinates special events; prepares news and estimates costs for command public affairs programs; coordinates news coverage of a major event; administers a shore AFRT station; writes and evaluates surveys. *JOCS:* Able to perform the duties required for JOC; plans administrative public affairs procedures and media liaison activities; evaluates personnel performance and manpower requirements; organizes, schedules, and evaluates training programs; reviews personnel, equipment, and material requirements; develops and monitors operating budgets. *JOCM:* Able to perform the duties required for JOCS; analyzes effectiveness of public affairs activities at the command level.

Recommendation, JO3

In the lower-division baccalaureate/associate degree category, 2 semester hours in basic news reporting, 2 in basic photography, 2 in broadcast news, 2 in broadcast production, 3 in radio announcing, 2 in copy editing, and 2 in feature writing (11/97).

Recommendation, JO2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming and 3 in video production (11/97).

Recommendation, JO1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in public relations writing, 3 in advanced broadcast production, 3 in video production, 3 in personnel management, and 3 in media relations (11/97).

Recommendation, JOC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in public relations writing, 3 in advanced broadcast production, 3 in video production, 3 in personnel management, 3 in media relations, 3 in station management, 3 in business administration, 3 in survey methods, and 3 in advanced media relations (11/97).

Recommendation, JOCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in video production, 3 in public relations writing, 3 in advanced broadcast production, 3 in personnel management, 3 in media relations, 3 in station management, 3 in business administration, 3 in survey methods, 3 in advanced media relations, 3 in interpersonal communication, 3 in broadcast regulations, 3 in organizational management, 3 in public affairs planning, and 3 in public relations policy management (11/97).

Recommendation, JOCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic news reporting, 3 in basic photography, 3 in broadcast news, 3 in broadcast production, 3 in radio announcing, 3 in copy editing, and 3 in feature writing. In the upper-division baccalaureate category, 3 semester hours in broadcast programming, 3 in video production, 3 in public relations writing, 3 in advanced broadcast production, 3 in personnel management, 3 in media relations, 3 in station management, 3 in business administration, 3 in survey methods, 3 in advanced media relations, 3 in interpersonal communication, 3 in broadcast regulations, 3 in organizational management, 3 in public affairs planning, and 3 in public relations policy management (11/97).

NER-LI-002

LITHOGRAPHER
- LI3
- LI2
- LI1
- LIC
- LICS
- LICM

Exhibit Dates: 1/90–1/96.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *LI3:* Lithographer, Third Class (E-4). *LI2:* Lithographer, Second Class (E-5). *LI1:* Lithographer, First Class (E-6). *LIC:* Chief Lithographer (E-7). *LICS:* Senior Chief Lithographer (E-8). *LICM:* Master Chief Lithographer (E-9).

Description

Summary: Performs graphic reproduction with lithographic and related reprographic equipment; assists in determining the appropriate style or format for publication; produces and strips negatives and positives; prepares line and halftone camera copy; utilizes darkroom equipment; processes lithographic plates; operates process cameras, presses, and bindery equipment; performs organizational maintenance on reprographic equipment; these skills are applicable to single color and multicolor printing. *LI3:* Reproduces printed matter by the lithographic method; operates graphic equipment; duties include negative stripping, line camera operation, platemaking, type composition, and some preparation of copy and layouts; has knowledge of darkroom procedures and bindery operations; performs these skills at a journeyman level of proficiency. *LI2:* Able to perform the duties required for LI3; prepares color combination overlays and copy for line color separation; estimates time and materials required to complete a printing job; troubleshoots equipment; times and aligns printing presses; prepares halftones. *LI1:* Able to perform the duties required for LI2; prepares printing specifications; requisitions and inventories supplies and equipment; interprets policies of the Navy Publication and Printing Service; performs make-ready operations and prepares weekly maintenance schedules. *LIC:* Able to perform the duties required for LI1; plans, organizes, and supervises the operation of a lithographic and letterpress shop; performs process photography operations; prepares quarterly maintenance schedules. *LICS:* Able to perform the duties required for LIC; prepares administrative and operational reports; requests and justifies additional graphics equipment; prepares correspondence; prepares directives and instructions for attaining organization objectives; organizes and schedules training programs; administers a long-range planned maintenance program. *LICM:* Able to perform the duties required for LICS; establishes goals and priorities; reviews personnel, equipment, and material requirements and forecasts future requirements; develops operating budgets and monitors expenditures.

Recommendation, LI3

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, and 2 in layout and copy preparation (10/87).

Recommendation, LI2

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, and 3 for field experience in graphic arts (10/87).

Recommendation, LI1

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 4 for field experience in graphic arts, and 3 in print shop management (10/87).

Recommendation, LIC

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 4 for field experience in graphic arts, 4 in print shop management, and 3 in personnel supervision (10/87).

Recommendation, LICS

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 4 for field experience in graphic arts, 4 in print shop management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (10/87).

Recommendation, LICM

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 4 for field experience in graphic arts, 4 in print shop management, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (10/87).

NER-LI-003

LITHOGRAPHER
- LI3
- LI2
- LI1
- LIC
- LICS
- LICM

Exhibit Dates: 2/96–Present.

Occupational Field: 17 (Media).

Career Pattern

SN: Seaman (E-3). *LI3:* Lithographer, Third Class (E-4). *LI2:* Lithographer, Second Class (E-5). *LI1:* Lithographer, First Class (E-6). *LIC:* Chief Lithographer (E-7). *LICS:* Senior Chief Lithographer (E-8). *LICM:* Master Chief Lithographer (E-9).

Description

Summary: Performs graphic reproduction with desktop publishing, lithographic, and related reprographic equipment; assists in determining the appropriate style or format for publication; produces and strips negatives and positives; prepares line and halftone camera copy; uses darkroom equipment; processes lithographic plates; operates process cameras, presses, and desktop publishing software; performs organizational maintenance on reprographic equipment; these skills are applicable to single color and multicolor printing. *LI3:* Reproduces printed matter by the lithographic method; operates graphic equipment; duties include negative stripping, line camera operation, platemaking, type composition, and some preparation of copy and layouts; has knowledge of darkroom procedures and bindery operations; performs these skills at a journeyman level of proficiency; performs basic desktop publishing with various software applications. *LI2:* Able to perform the duties required for LI3; prepares color combination overlays and copy for line color separation; estimates time and materials required to complete a printing job; troubleshoots equipment; times and aligns printing presses; prepares halftones; performs advanced desktop publishing assignments. *LI1:* Able to perform the duties required for LI2; prepares printing specifications; requisitions and inventories supplies and equipment; interprets policies of the Navy Publication and Printing Service; performs make-ready operations and prepares weekly maintenance schedules; supervises press operations and on-the-job training. *LIC:* Able to perform the duties required for LI1; plans, organizes, and supervises the operation of a lithographic and letterpress shop; performs process photography operations; prepares quarterly maintenance schedules; prepares standing operating procedures and oversees compliance with applicable laws and regulations; prepares printing estimates and program budgets. *LICS:* Able to perform the duties required for LIC; prepares administrative and operational reports; requests and justifies additional graphics equipment; prepares correspondence; prepares directives and instructions for attaining organization objectives; organizes and schedules training programs; administers a long-range planned maintenance program. *LICM:* Able to perform the duties required for LICS; establishes goals and priorities; reviews personnel, equipment, and material requirements and forecasts future requirements; develops operating budgets and monitors expenditures.

Recommendation, LI3

In the lower-division baccalaureate/associate degree category, 3 semester hours in offset press operation, 2 in platemaking, 3 in process camera, 2 in layout and copy preparation and 3 in desktop publishing (2/96).

Recommendation, LI2

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, and 6 in desktop publishing (2/96).

Recommendation, LI1

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 6 in desktop publishing, and 3 in print shop management (2/96).

Recommendation, LIC

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 6 in desktop publishing, 4 in print shop management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/96).

Recommendation, LICS

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 6 in desktop publishing, 4 in print shop management, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (2/96).

Recommendation, LICM

In the lower-division baccalaureate/associate degree category, 4 semester hours in offset press operation, 2 in platemaking, 4 in process camera, 3 in layout and copy preparation, 6 in desktop publishing, 4 in print shop management, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (2/96).

NER-LN-002

LEGALMAN

LN2
LN1
LNC
LNCS
LNCM

Exhibit Dates: 1/90–Present.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *YN3:* Yeoman, Third Class (E-4). *LN2:* Legalman, Second Class (E-5). *LN1:* Legalman, First Class (E-6). *LNC:* Chief Legalman (E-7). *LNCS:* Senior Chief Legalman (E-8). *LNCM:* Master Chief Legalman (E-9).

Description

Summary: Performs paralegal duties under the supervision of a judge advocate (legal officer). *LN2:* Records with stenomask (closed microphone recording device) or stenotype machine; types at 40 words per minute, using word processing equipment and computer and related software for automated litigation support systems; performs primarily military-related paralegal duties such as completing legal forms, answering inquiries on basic legal services, and assisting personnel in obtaining legal services; schedules and prepares courtroom for trials and legal proceedings; performs general legal office duties under supervision. *LN1:* Able to perform the duties required for LN2; types at 50 words per minute; performs paralegal duties pertaining to both civil and military legal matters, including interviewing witnesses, providing security for evidence, and providing basic legal information and counseling on personal legal matters; researches legal documents and questions; cooperates with civil authorities in legal matters concerning Navy personnel. *LNC:* Able to perform the duties required for LN1; supervises the administrative procedures of a legal office; interviews and counsels detained personnel and prisoners. *LNCS:* Able to perform the duties required for LNC; assists in the preparation of research using standard legal references such as state and federal codes, reporters, citators, legal encyclopedias, and legal digests; organizes and supervises personnel functions in a judge advocate's office; reviews reports and records for accuracy and legal adequacy. *LNCM:* Able to perform the duties required for LNCS; develops operating budgets and monitors expenditures; prepares plans for manpower, supplies, and equipment utilization in a legal office; establishes goals and objectives within own area of responsibility; plans, organizes, and controls activities in compliance with policy statements, operational orders, and directives.

Recommendation, LN2

In the lower-division baccalaureate/associate degree category, 3 semester hours in word processing applications, 2 in computerized litigation support, 2 in law office systems, 3 in military legal practices and procedures, 3 in machine transcription, 3 in legal writing, and 2 in typing (3/90).

Recommendation, LN1

In the lower-division baccalaureate/associate degree category, 3 semester hours in word processing applications, 3 in computerized litigation support, 3 in law office systems, 3 in military legal practices and procedures, 3 in machine transcription, 3 in legal writing, 3 in typing, 2 in legal research, and 3 in litigation (3/90).

Recommendation, LNC

In the lower-division baccalaureate/associate degree category, 3 semester hours in word processing applications, 3 in computerized litigation support, 3 in law office systems, 3 in military legal practices and procedures, 3 in machine transcription, 3 in legal writing, 3 in typing, 3 in legal research, 3 in litigation, and 3 in law office administration (3/90).

Recommendation, LNCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in word processing applications, 3 in computerized litigation support, 3 in law office systems, 3 in military legal practices and procedures, 3 in machine transcription, 3 in legal writing, 3 in typing, 3 in legal research, 3 in litigation, and 3 in law office administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 2 in judicial process and administration, and 3 in legal bibliography (3/90).

Recommendation, LNCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in word processing applications, 3 in computerized litigation support, 3 in law office systems, 3 in military legal practices and procedures, 3 in machine transcription, 3 in legal writing, 3 in typing, 3 in legal research, 3 in litigation, and 3 in law office administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in judicial process and administration, and 3 in legal bibliography (3/90).

NER-MA-001

MASTER-AT-ARMS

MA3
MA2
MA1
MAC
MACS
MACM

Exhibit Dates: 1/90–4/92.

Occupational Field: 19 (Master-At-Arms).

Career Pattern

MA3: Master-At-Arms, Third Class (E-4). *MA2:* Master-At-Arms, Second Class (E-5). *MA1:* Master-At-Arms, First Class (E-6). *MAC:* Chief Master-At-Arms (E-7). *MACS:* Senior Chief Master-At-Arms (E-8). *MACM:* Master Chief Master-At-Arms (E-9).

Description

MA3: Conducts and supervises investigations, interrogations, and apprehensions; duties include crime prevention, preservation of crime scene evidence, enforcement of appropriate criminal and traffic laws, shore patrol, physical security responsibilities, crowd control, custodial operations, and other public safety duties; prepares records and reports. *MA2:* Able to perform the duties required for MA3; provides technical guidance to subordinates. *MA1:* Able to perform the duties required for MA2; provides technical guidance to subordinates. *MAC:* Able to perform the duties required for MA1; provides technical guidance to subordinates. *MACS:* Able to perform the duties required for MAC; provides technical guidance to subordinates. *MACM:* Able to perform the duties required for MACS; plans, implements, and controls activities; establishes goals and priorities; reviews personnel, equipment, and material requirements and forecasts future requirements; develops operating budgets and monitors expenditures.

Recommendation, MA3

In the vocational certificate category, 3 semester hours in police equipment/techniques and 3 in weapons proficiency/self-defense. In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in criminal law (evidence), 3 in criminal procedure (legal), 3 in report writing, 3 in correctional procedures, 3 in human relations/applied psychology, 3 in introduction to physical security/safety, and 3 in instructor (training) techniques (3/79).

Recommendation, MA2

In the vocational certificate category, 3 semester hours in police equipment/techniques and 3 in weapons proficiency/self-defense. In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in criminal law (evidence), 3 in criminal procedure (legal), 3 in report writing, 3 in correctional procedures, 3 in human relations/applied psychology, 3 in introduction to physical security/safety, and 3 in instructor (training) techniques (3/79).

Recommendation, MA1

In the vocational certificate category, 3 semester hours in police equipment/techniques and 3 in weapons proficiency/self-defense. In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in criminal law (evidence), 3 in criminal procedure (legal), 3 in report writing, 3 in correctional procedures, 3 in human relations/applied psychology, 3 in introduction to physical security/safety, and 3 in instructor (training) techniques (3/79).

Recommendation, MAC

In the vocational certificate category, 3 semester hours in police equipment/techniques and 3 in weapons proficiency/self-defense. In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in criminal law (evidence), 3 in criminal procedure (legal), 3 in report writing, 3 in correctional procedures, 3 in human relations/applied psychology, 3 in introduction to physical security/safety, and 3 in instructor (training) techniques (3/79).

Recommendation, MACS

In the vocational certificate category, 3 semester hours in police equipment/techniques and 3 in weapons proficiency/self-defense. In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in criminal law (evidence), 3 in criminal procedure (legal), 3 in report writing, 3 in correctional procedures, 3 in human relations/applied psychology, 3 in introduction to physical security/safety, and 3 in instructor (training) techniques (3/79).

Recommendation, MACM

In the vocational certificate category, 3 semester hours in police equipment/techniques and 3 in weapons proficiency/self-defense. In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in criminal law (evidence), 3 in criminal procedure (legal), 3 in report writing, 3 in correctional procedures, 3 in human relations/applied psychology, 3 in introduction to physical security/safety, and 3 in instructor (training) techniques. In the upper-division baccalaureate category, 3 semester hours in administrative procedures and 3 in supervision techniques (3/79).

NER-MA-002

MASTER-AT-ARMS
MA3
MA2
MA1
MAC
MACS
MACM

Exhibit Dates: 5/92–Present.

Occupational Field: 19 (Master-At-Arms).

Career Pattern

SN: Seaman (E-3). *MA3:* Master-At-Arms, Third Class (E-4). *MA2:* Master-At-Arms, Second Class (E-5). *MA1:* Master-At-Arms, First Class (E-6). *MAC:* Chief Master-At-Arms (E-7). *MACS:* Senior Chief Master-At-Arms (E-8). *MACM:* Master Chief Master-At-Arms (E-9).

Description

MA3: Conducts investigations, interrogations, and apprehensions; duties include crime prevention, preservation of crime scene evidence, enforcement of appropriate criminal and traffic laws, shore patrol, physical security responsibilities, crowd control, custodial operations, and other safety duties; prepares records and reports. *MA2:* Able to perform the duties required for MA3; provides technical guidance to subordinates. *MA1:* Able to perform the duties required for MA2; supervises and trains subordinates; recommends enhancements to physical security of Navy installations, property, and personnel; supervises and trains in antiterrorism defense and weapons proficiency; implements defensive measures to combat threats; maintains liaison with appropriate public service agencies; plans, implements, and controls activities; establishes goals, and priorities; reviews personnel, equipment, and material requirements and forecasts future requirements; develops operating budgets and monitors expenditures. *MAC:* Able to perform the duties required for MA1; provides technical guidance to subordinates. *MACS:* Able to perform the duties required for MAC; provides technical guidance to subordinates. *MACM:* Able to perform the duties required for MACS; provides technical guidance to subordinates.

Recommendation, MA3

In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in evidence, 3 in criminal procedure, 3 in report writing, 3 in physical security, and 3 in human relations (5/92).

Recommendation, MA2

In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in evidence, 3 in criminal procedure, 3 in report writing, 3 in physical security, and 3 in human relations (5/92).

Recommendation, MA1

In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in evidence, 3 in criminal procedure, 3 in report writing, 3 in physical security, 3 in human relations, 3 in instructor techniques, 3 in personnel supervision, and 3 in principles of management. In the upper-division baccalaureate category, 3 semester hours in human resource management (5/92).

Recommendation, MAC

In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in evidence, 3 in criminal procedure, 3 in report writing, 3 in physical security, 3 in human relations, 3 in instructor techniques, 3 in personnel supervision, and 3 in principles of management. In the upper-division baccalaureate category, 3 semester hours in human resource management (5/92).

Recommendation, MACS

In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in evidence, 3 in criminal procedure, 3 in report writing, 3 in physical security, 3 in human relations, 3 in instructor techniques, 3 in personnel supervision, and 3 in principles of management. In the upper-division baccalaureate category, 3 semester hours in human resource management and 3 in administrative procedures (5/92).

Recommendation, MACM

In the lower-division baccalaureate/associate degree category, 3 semester hours in criminal investigation, 3 in evidence, 3 in criminal procedure, 3 in report writing, 3 in physical security, 3 in human relations, 3 in instructor techniques, 3 in personnel supervision, and 3 in principles of management. In the upper-division baccalaureate category, 3 semester hours in human resource management and 3 in administrative procedures (5/92).

NER-ML-002

MOLDER
ML3
ML2
ML1
MLC

Exhibit Dates: 1/90–1/96.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *ML3:* Molder, Third Class (E-4). *ML2:* Molder, Second Class (E-5). *ML1:* Molder, First Class (E-5). *MLC:* Chief Molder (E-7). *MLCS:* Senior Chief Molder (E-8). *MLCM:* Master Chief Molder (E-9).

Description

Summary: Operates foundries aboard ship and at shore stations; makes molds and cores; sets up flasks; prepares heats; operates melting furnaces and pours castings of ferrous and nonferrous metals and alloys; cleans castings; casts a variety of Navy equipment components, including bearings, brass and bronze fittings, and cast iron, steel, and aluminum items; operates muller and controls sand quality; performs maintenance on assigned equipment; works from shop drawings. *ML3:* Conducts bench and floor molds; makes and installs cores, rebabbits bearings, prepares and evaluates molding sands; arranges molding sequence; identifies Navy babbitts; charges induction furnaces; selects casting alloys; identifies metals and alloys; selects and applies gas purging methods; repairs refractory linings; cleans furnaces and ladles; uses and maintains pyrometers, electric and pneumatic power tools, and oxyacetylene welding/cutting equipment; makes carbon dioxide process cores; reads and works from shop drawings and sketches; maintains shop files; determines weights of castings; cleans castings. *ML2:* Able to perform the duties required for ML3; makes molds directly from castings and analyzes casting quality; allows for shrinkage effects of cast steel and monel; identifies and uses bonding materials; designs gating systems; determines proper use of refractories; identifies type and effects of gas absorption; selects methods of obtaining proper casting solidification; controls the reaction of sodium silicate binders with carbon dioxide and heat; determines cause and method of detection of casting defects related to foundry sand, melting and pouring practice, and molding technique; determines and obtains proper molding pressure for metals cast; identifies abrasive materials and their uses; orders repair parts and special tools for equipment maintenance; prepares sketches from mechanical drawings and existing parts. *ML1:* Able to perform the duties required for ML2; interprets materials lists and modifications; maintains manuals; estimates time, material, and cost for foundry work; designs gating systems and special techniques for shrinkage allowance and finish machining; designs and makes internal chills; identifies types and effects of grain formation in cast metal; determines mold buoyancy; melts steel and monel; distinguishes mechanical properties of cast metals and alloys; interprets bindary phase diagrams and cooling curves for commonly used casting compositions; interprets cooling characteristics of metal microstructures; makes special mixture cores; determines gassing and baking times for carbon dioxide cores; schedules and checks maintenance work. *MLC:* Able to perform the duties required for ML1; designs castings with inserts and determines pouring rates and temperatures; trains, manages, and supervises personnel in foundry operations, metal identification, and pyrometry; prepares quarterly preventive maintenance schedules.

Recommendation, ML3

In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 1 in welding, 2 in metallurgy, and 2 in foundry practice (3/90).

Recommendation, ML2

In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 2 in welding, 3 in metallurgy, 4 in foundry practice, 1 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, ML1

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in welding, 3 in metallurgy, 6 in foundry practice, 2 in record keeping, and 3 in principles of supervision (3/90).

Recommendation, MLC

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in welding, 3 in metallurgy, 8 in foundry practice, 2 in record keeping, and 4 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 1 in management problems (3/90).

NER-ML-004

Molder, Senior Chief and Master Chief
MLCS
MLCM

Exhibit Dates: 1/90–1/96.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

May progress from either MLC, Chief Molder (E-7), or PMC, Chief Patternmaker (E-7). *MLCS:* Senior Chief Molder (E-8). *MLCM:* Master Chief Molder (E-9).

Description

MLCS: Able to perform the duties required for MLC (Chief Molder) or PMC (Chief Patternmaker); provides information and advises on utilization, capabilities, reliability, and operations of foundry; prepares local directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel for maximum utilization; serves as ship's supervisor; supervises operations of foundries and pattern shops; instructs personnel in physical and mechanical properties of metals, alloys, and plastics; coordinates construction and uses of master patterns, molds, and castings; organizes and schedules training programs and evaluates their effectiveness; initiates improvements; administers long-range preventive maintenance programs. *MLCM:* Able to perform the duties required for MLCS; assists repair officer in management of repair department; serves as technical advisor to repair officer; plans, organizes, implements, and controls activities in compliance with policy, operations orders, and directives; forecasts future requirements; plans and initiates actions to satisfy safety requirements; establishes goals, objectives, and priorities; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, MLCS

In the lower-division baccalaureate/associate degree category, if progressed from Molder, use the recommendation for MLC in exhibit NER-ML-002 plus 3 semester hours in materials science; if progressed from Patternmaker, use the recommendation for PMC in exhibit NER-PM-002 plus 3 semester hours in materials science. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, MLCM

In the lower-division baccalaureate/associate degree category, if progressed from Molder, use the recommendation for MLC in exhibit NER-ML-002 plus 3 semester hours in materials science; if progressed from Patternmaker, use the recommendation for PMC in exhibit NER-PM-002 plus 3 semester hours in materials science. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (3/90).

NER-ML-005

Molder
ML3
ML2
ML1
MLC

Exhibit Dates: 2/96–10/97. Effective 10/97, the Molder rating was discontinued.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *ML3:* Molder, Third Class (E-4). *ML2:* Molder, Second Class (E-5). *ML1:* Molder, First Class (E-5). *MLC:* Chief Molder (E-7). *MLCS:* Senior Chief Molder (E-8). *MLCM:* Master Chief Molder (E-9).

Description

Summary: Operates foundries aboard ship and at shore stations; makes molds and cores; sets up flasks; prepares heats; operates melting furnaces and pours castings of ferrous and nonferrous metals and alloys; cleans castings; casts a variety of Navy equipment components, including bearings, brass and bronze fittings, and cast iron, steel, and aluminum items; operates muller and controls sand quality; performs maintenance on assigned equipment; works from shop drawings and blueprints. *ML3:* Conducts bench and floor molds; makes and installs cores, rebabbits bearings, prepares and evaluates molding sands; arranges molding sequence; identifies Navy babbitts; charges induction furnaces; selects casting alloys; identifies metals and alloys; selects and applies gas purging methods; repairs refractory linings; cleans furnaces and ladles; uses and maintains pyrometers, electric and pneumatic power tools, and oxyacetylene welding/cutting equipment; makes carbon dioxide process cores; reads and works from shop drawings, blueprints, and sketches; maintains shop files; determines weights of castings; cleans castings. *ML2:* Able to perform the duties required for ML3; makes molds directly from castings and analyzes casting quality; allows for shrinkage effects of cast steel and monel; identifies and uses bonding materials; designs gating systems; determines proper use of refractories; identifies type and effects of gas absorption; selects methods of obtaining proper casting solidification; controls the reaction of sodium silicate binders with carbon dioxide and heat; determines cause and method of detection of casting defects related to foundry sand, melting and pouring practice, and molding technique; determines and obtains proper molding pressure for metals cast; identifies abrasive materials and their uses; orders repair parts and special tools for equipment maintenance; prepares sketches from blueprints, drawings, and existing parts. *ML1:* Able to perform the duties required for ML2; interprets blueprints, materials lists, and modifications; maintains manuals; estimates time, material, and cost for foundry work; designs gating systems and special techniques for shrinkage allowance and finish machining; designs and makes internal chills; identifies types and effects of grain formation in cast metal; determines mold buoyancy; melts steel and monel; distinguishes mechanical properties of cast metals and alloys; interprets bindary phase diagrams and cooling curves for commonly used casting compositions; interprets cooling characteristics of metal microstructures; makes special mixture cores; determines gassing and baking times for carbon dioxide cores; schedules and checks maintenance work. *MLC:* Able to perform the duties required for ML1; designs castings with inserts and determines pouring rates and temperatures; trains, manages, evaluates, and supervises personnel in foundry operations, metal identification, and pyrometry; prepares quarterly preventive maintenance schedules.

Recommendation, ML3

In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 1 in oxy-acetylene welding, 2 in metallurgy, and 2 in foundry practice (2/96).

Recommendation, ML2

In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 2 in oxy-acetylene welding, 3 in metallurgy, 4 in foundry practice, 1 in record keeping, and 1 in personnel supervision (2/96).

Recommendation, ML1

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in oxy-acetylene welding, 3 in metallurgy, 6 in foundry practice, 2 in record keeping, and 2 in personnel supervision (2/96).

Recommendation, MLC

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in oxy-acetylene welding, 3 in metallurgy, 8 in foundry practice, 2 in record keeping, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/96).

NER-ML-006

MOLDER, SENIOR CHIEF AND MASTER CHIEF
MLCS
MLCM

Exhibit Dates: 2/96–10/97. Effective 10/97, the Molder rating was discontinued.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

May progress from either MLC, Chief Molder (E-7), or PMC, Chief Patternmaker (E-7). *MLCS:* Senior Chief Molder (E-8). *MLCM:* Master Chief Molder (E-9).

Description

MLCS: Able to perform the duties required for MLC (Chief Molder) or PMC (Chief Patternmaker); provides information and advises on utilization, capabilities, reliability, and operations of foundry; prepares local directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel for maximum utilization; serves as ship's supervisor; supervises operations of foundries and pattern shops; instructs personnel in physical and mechanical properties of metals, alloys, and plastics; coordinates construction and uses of master patterns, molds, and castings; organizes and schedules training programs and evaluates their effectiveness; initiates improvements; administers long-range preventive maintenance programs. *MLCM:* Able to perform the duties required for MLCS; assists repair officer in management of repair department; serves as technical advisor to repair officer; plans, organizes, implements, and controls activities in compliance with policy, operations orders, and directives; forecasts future requirements; plans and initiates actions to satisfy safety requirements; establishes goals, objectives, and priorities; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, MLCS

In the lower-division baccalaureate/associate degree category, if progressed from Molder, use the recommendation for MLC in exhibit NER-ML-005 plus 3 semester hours in materials science; if progressed from Patternmaker, use the recommendation for PMC in exhibit NER-PM-003 plus 3 semester hours in materials science. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (2/96).

Recommendation, MLCM

In the lower-division baccalaureate/associate degree category, if progressed from Molder, use the recommendation for MLC in exhibit NER-ML-005 plus 3 semester hours in materials science; if progressed from Patternmaker, use the recommendation for PMC in exhibit NER-PM-003 plus 3 semester hours in materials science. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (2/96).

NER-MM-002

MACHINIST'S MATE
MM3
MM2
MM1
MMC
MMCS
MMCM

Exhibit Dates: 1/90–10/97.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *MM3:* Machinist's Mate, Third Class (E-4). *MM2:* Machinist's Mate, Second Class (E-5). *MM1:* Machinist's Mate, First Class (E-6). *MMC:* Chief Machinist's Mate (E-7). *MMCS:* Senior Chief Machinist's Mate (E-8). *MMCM:* Master Chief Machinist's Mate (E-9).

Description

Summary: Operates, repairs, and performs maintenance on ship propulsion machinery and auxiliary equipment. *MM3:* Operates main propulsion steam engines, turbo generators and associated systems (condensate circulating water, lube oil, etc.); operates auxiliary systems such as compressed air portable water, air conditioning and refrigeration systems, and steering systems; completes maintenance data forms; exercises environmental control procedures to prevent or minimize air pollution and oil spills. *MM2:* Able to perform the duties required for MM3; calibrates pressure and temperature sensing devices; carries out chemical water treatment procedures; performs maintenance on whistles, sirens, anchor windlasses, cranes, winches, steering engines, food preparation and dishwashing machinery, and air and reefer compressors; operates and performs mechanical maintenance on propulsion system equipment; adjusts thermal expansion valves, pressure switches, thermostats, and regular valves; may serve as engine room watch supervisor (in port); completes maintenance reports; inventories installed equipment; orders repair parts and tools. *MM1:* Able to perform the duties required for MM2; identifies factors governing main propulsion plant efficiency, causes of poor performance, and appropriate remedies; tests, dehydrates, and recharges refrigeration and air conditioning systems; may serve as engine room watch supervisor (underway); instructs engine room personnel in casualty control and plant operation procedures; reviews completed maintenance data forms; prepares weekly schedules of preventive maintenance; prepares environmental pollution control reports. *MMC:* Able to perform the duties required for MM1; prepares equipment and machinery performance and repair reports; monitors the qualifications of engine room watchstanders; supervises personnel in carrying out casualty control procedures; plans and schedules work load; prepares quarterly maintenance schedules; supervises and assists personnel in the repair, overhaul, and procurement of ship propulsion and auxiliary equipment. *MMCS:* Able to perform the duties required for MMC; identifies deficiencies of equipment and machinery; provides information and advises on utilization, capabilities, reliability, and operation; prepares directives and instructions for attaining organization objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; reviews requirements for watchstanding qualifications; prepares correspondence; trains and supervises personnel; organizes and schedules training programs; administers a long-range planned maintenance program; supervises environmental pollution control programs. *MMCM:* Able to perform the duties required for MMCS; develops and monitors safety programs; advises personnel about new technical information; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; prepares major maintenance and repair schedules; supervises inspections and surveys of equipment; develops operating budgets and monitors expenditures.

Recommendation, MM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic marine engineering (steam turbines), 3 in basic marine engineering (auxiliaries), 3 in maintenance technology, and 1 in blueprint reading (3/90).

Recommendation, MM2

In the lower-division baccalaureate/associate degree category, 5 semester hours in basic marine engineering (steam turbines), 5 in basic marine engineering (auxiliaries), 6 in maintenance technology, 2 in blueprint reading, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, MM1

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic marine engineering (steam turbines), 6 in basic marine engineering (auxiliaries), 9 in maintenance technology, 2 in blueprint reading, 2 in record keeping, 2 in principles of supervision, and 1 in maintenance management (3/90).

Recommendation, MMC

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic marine engineering (steam turbines), 6 in basic marine engineering (auxiliaries), 9 in maintenance technology, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 2 in maintenance management (3/90).

Recommendation, MMCS

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic marine engineering (steam turbines), 6 in basic marine engineering (auxiliaries), 9 in maintenance technology, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, MMCM

In the lower-division baccalaureate/associate degree category, 6 semester hours in basic marine engineering (steam turbines), 6 in basic marine engineering (auxiliaries), 9 in maintenance technology, 2 in blueprint reading, 2 in record keeping, 3 in principles of supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (3/90).

NER-MM-003

Machinist's Mate

MM3
MM2
MM1
MMC
MMCS
MMCM

Exhibit Dates: 11/97–Present.

Occupational Field: 3 (Marine Engineering).

Career Pattern

FN: Fireman (E-3). *MM3:* Machinist's Mate, Third Class (E-4). *MM2:* Machinist's Mate, Second Class (E-5). *MM1:* Machinist's Mate, First Class (E-6). *MMC:* Chief Machinist's Mate (E-7). *MMCS:* Senior Chief Machinist's Mate (E-8). *MMCM:* Master Chief Machinist's Mate (E-9).

Description

Summary: Operates, repairs, and performs maintenance on ship propulsion machinery and auxiliary equipment. *MM3:* Operates main propulsion steam engines, turbo generators and associated systems (condensate circulating water, lube oil, etc.); operates auxiliary systems, including compressed air, potable water, air conditioning and refrigeration systems, and steering systems; completes maintenance forms; exercises environmental control procedures to prevent or minimize air pollution and oil spills. *MM2:* Able to perform the duties required for MM3; calibrates pressure and temperature sensing devices; carries out chemical water treatment procedures; performs maintenance on whistles, sirens, anchor windlasses, cranes, winches, steering engines, food preparation and dishwashing machinery, and air and reefer compressors; operates and performs mechanical maintenance on propulsion system equipment; adjusts thermal expansion valves, pressure switches, thermostats, and regulator valves; may serve as lead man; completes maintenance reports; inventories installed equipment; orders repair parts; uses computer software. *MM1:* Able to perform the duties required for MM2; identifies factors governing main propulsion plant efficiency, causes of poor performance, and appropriate remedies; tests, dehydrates, and recharges refrigeration and air conditioning systems; may serve as engine room watch supervisor (underway); instructs engine room personnel in casualty control and plant operation procedures; reviews completed maintenance forms; uses computer to prepare weekly schedules of preventive maintenance and environmental pollution control reports. *MMC:* Able to perform the duties required for MM1; prepares equipment and machinery performance and repair reports; monitors the qualifications of engine room watchstanders; supervises personnel in carrying out casualty control procedures; plans and schedules work load; uses computer to prepare quarterly maintenance schedules; supervises and assists in the repair, overhaul, and procurement of ship propulsion and auxiliary equipment. *MMCS:* Able to perform the duties required for MMC; identifies deficiencies of equipment and machinery; provides information and advises on utilization, capabilities, reliability, and operation; prepares directives and instructions for attaining organization objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; reviews requirements for watchstanding qualifications; prepares correspondence; trains and supervises personnel; organizes and schedules training programs; administers a long-range planned maintenance program; supervises environmental pollution control programs. *MMCM:* Able to perform the duties required for MMCS; develops and monitors safety programs; advises personnel about new technical information; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements, and forecasts future requirements; prepares major maintenance and repair schedules; supervises inspections and surveys of equipment; develops operating budgets and monitors expenditures.

Recommendation, MM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in power systems engineering (steam turbines), 3 in basic marine engineering, 3 in power systems maintenance, 1 in applied computer technology, and 1 in blueprint reading (11/97).

Recommendation, MM2

In the lower-division baccalaureate/associate degree category, 4 semester hours in power systems engineering (steam turbines), 3 in basic marine engineering, 5 in power systems maintenance, 2 in applied computer technology, and 2 in blueprint reading (11/97).

Recommendation, MM1

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering (steam turbines), 3 in basic marine engineering, 6 in power systems maintenance, 3 in blueprint reading, 2 in personnel supervision, 1 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 2 semester hours for field experience in management (11/97).

Recommendation, MMC

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering (steam turbines), 3 in basic marine engineering, 6 in power systems maintenance, 3 in blueprint reading, 3 in personnel supervision, 2 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (11/97).

Recommendation, MMCS

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering (steam turbines), 3 in basic marine engineering, 6 in power systems maintenance, 3 in blueprint reading, 3 in personnel supervision, 3 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 4 semester hours for field experience in management and 4 in management problems (11/97).

Recommendation, MMCM

In the lower-division baccalaureate/associate degree category, 6 semester hours in power systems engineering (steam turbines), 3 in basic marine engineering, 6 in power systems maintenance, 3 in blueprint reading, 3 in personnel supervision, 3 in maintenance management, and 3 in applied computer technology. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (11/97).

NER-MN-001

Mineman

MN3
MN2
MN1
MNC
MNCS
MNCM

Exhibit Dates: 1/90–4/92.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *MN3:* Mineman, Third Class (E-4). *MN2:* Mineman, Second Class (E-5). *MN1:* Mineman, First Class (E-6). *MNC:* Chief Mineman (E-7). *MNCS:* Senior Chief Mineman (E-8). *MNCM:* Master Chief Mineman (E-9).

Description

Summary: Responsible for maintenance, installation, and inspection of mines (underwater explosive devices) which are loaded onto surface ships, submarines, or aircraft for placement in the water. *MN3:* Inspects and prepares mine cases for assembly; loads explosives into mine cases; installs electronic modules; stores, charges, and installs batteries; performs mechanical adjustments; checks temperatures in storage areas; uses standard hand tools, thread cutting devices, mechanical measuring devices, portable power tools, and bench tools; uses electrical, hydrostatic, and vacuum tube testing devises; prepares mines for storage. *MN2:* Able to perform the duties required for MN3; performs final preparation on mines for shipment and planting; conducts inventory and orders parts and tools. *MN1:* Able to perform the duties required for MN2; instructs personnel in handling and stowing explosives and detonating agents; supervises assembling, disassembling, handling, testing, maintaining, and issuing of mines; prepares weekly schedules for preventive maintenance. *MNC:* Able to perform the duties required for MN1; develops plans for storage or loading of mines and mine components onto aircraft or vessels; establishes and maintains filing systems; supervises upkeep and operation of a mine assembly unit; checks operating logs and maintenance records to ensure equipment is operating within prescribed limits; ensures that prescribed procedures are followed in operation of test equipment. *MNCS:* Able to perform the duties required for MNC; manages a division within a weapons department concerned with underwater mine ordnance; provides information and advises on utilization, capabilities, reliability, and operations in area of responsibility; prepares correspondence; administers a long-range maintenance program. *MNCM:* Able to perform the duties required for MNCS; reviews personnel, equipment, and material requirements; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; analyzes records and reports; develops operating budgets and monitors expenditures.

Recommendation, MN3

In the lower-division baccalaureate/associate degree category, 3 semester hours in the use and care of hand and power tools (9/80).

Recommendation, MN2

In the lower-division baccalaureate/associate degree category, 3 semester hours in the use and care of hand and power tools (9/80).

Recommendation, MN1

In the lower-division baccalaureate/associate degree category, 3 semester hours in the use and care of hand and power tools and 3 in personnel supervision (9/80).

Recommendation, MNC

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 3 in personnel supervision, and 2 in records management (9/80).

Recommendation, MNCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 3 in personnel supervision, 2 in records management, and 3 in operations management (9/80).

Recommendation, MNCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 3 in personnel supervision, 2 in records management, and 6 in operations management (9/80).

NER-MN-002

MINEMAN

MN3
MN2
MN1
MNC
MNCS
MNCM

Exhibit Dates: 5/92–Present.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *MN3:* Mineman, Third Class (E-4). *MN2:* Mineman, Second Class (E-5). *MN1:* Mineman, First Class (E-6). *MNC:* Chief Mineman (E-7). *MNCS:* Senior Chief Mineman (E-8). *MNCM:* Master Chief Mineman (E-9).

Description

Summary: Responsible for maintenance, installation, and inspection of mines (underwater explosive devices) which are loaded onto surface ships, submarines, or aircraft for placement in the water. *MN3:* Inspects and prepares mine cases for assembly; loads explosives into mine cases; installs electronic modules; stores, charges, and installs batteries; performs mechanical adjustments; checks temperatures in storage areas; uses standard hand tools, thread cutting devices, mechanical measuring devices, portable power tools, and bench tools; uses electrical and hydrostatic testing devices; prepares mines for storage. *MN2:* Able to perform the duties required for MN3; performs final preparation of mines for shipment and planting; conducts inventory and orders parts and tools. *MN1:* Able to perform the duties required for MN2; instructs personnel in handling and stowing explosives and detonating agents; supervises assembling, disassembling, handling, testing, maintaining, and issuing of mines; prepares weekly schedules of preventive maintenance. *MNC:* Able to perform the duties required for MN1; develops plans for storage or loading of mines and mine components onto aircraft or vessels; establishes and maintains filing systems; supervises upkeep and operation of a mine assembly unit; checks operating logs and maintenance records to ensure equipment is operating within prescribed limits; ensures that prescribed procedures are followed in operation of test equipment. *MNCS:* Able to perform the duties required for MNC; manages a division within a weapons department concerned with underwater mine ordnance; provides information and advises on utilization, capabilities, reliability, and operations in area of responsibility; prepares correspondence; administers a long-range maintenance program. *MNCM:* Able to perform the duties required for MNCS; reviews personnel, equipment, and material requirements; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; analyzes records and reports; develops operating budgets and monitors expenditures.

Recommendation, MN3

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools (5/92).

Recommendation, MN2

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools (5/92).

Recommendation, MN1

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 2 in personnel supervision, and 2 in records and information management (5/92).

Recommendation, MNC

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 3 in personnel supervision, and 3 in records and information management (5/92).

Recommendation, MNCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 3 in personnel supervision, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (5/92).

Recommendation, MNCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in use and care of hand and power tools, 3 in personnel supervision, and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 for field experience in management, 3 in management problems, 3 in operations management, and 3 in communication techniques for managers (5/92).

NER-MR-002

MACHINERY REPAIRMAN

MR3
MR2
MR1
MRC
MRCS
MRCM

Exhibit Dates: 1/90–Present.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *MR3:* Machinery Repairman, Third Class (E-4). *MR2:* Machinery Repairman, Second Class (E-5). *MR1:* Machinery Repairman, First Class (E-6). *MRC:* Chief Machinery Repairman (E-7). *MRCS:* Senior Chief Machinery Repairman (E-8). *MRCM:* Master Chief Machinery Repairman (E-9).

Description

Summary: Performs maintenance on shipboard equipment and machinery using lathes, milling machines, boring mills, grinders, power hacksaws, drill presses, and other machine tools. *MR3:* Operates and performs maintenance on all machine shop equipment that is required to repair, rebuild, or fabricate parts to maintain shipboard equipment and machinery; reads sketches, diagrams, and blueprints; operates bench or pedestal drills, pedestal grinders, machine reamers, engine lathes, planers or shapers, milling machines, pantographs, disk metal band saw, arbor and hydraulic presses, and oxyacetylene equipment; performs computations to make threads, press fits, tapers, and keyways; completes maintenance data forms. *MR2:* Able to perform the duties required for MR3; maintains blueprint files for machine shop; uses machine shop equipment including attachments with special capabilities; performs hardness tests on metals, plastics, and casting; selects metals and plastics according to specifications; completes maintenance reports; inventories installed equipment; orders repair parts and tools. *MR1:* Able to perform the duties required for MR2; operates equipment that analyzes ferrous and nonferrous metals; performs heat-treating operations; repairs fixed machinery and equipment; performs alignment tests on ship equipment; reviews completed maintenance data forms; prepares weekly maintenance schedules. *MRC:* Able to perform the duties required for MR1; supervises maintenance and repair activities; estimates time and material requirements; maintains work center records; prepares quarterly maintenance schedules; directs the replacement, installation, maintenance and repair of complex repair shop equipment; supervises inventory of tools, equipment, and supplies. *MRCS:* Able to perform the duties required for MRC; provides information and advice on utilization, capabilities, reliability, and operations; prepares directives and instructions for attaining organization objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence; organizes and schedules training programs; administers a long-range planned maintenance program. *MRCM:* Able to perform the duties required for MRCS; develops and maintains safety programs; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements and forecasts future requirements; supervises inspections and survey of equipment; develops operating budgets and monitors expenditures.

Recommendation, MR3

In the lower-division baccalaureate/associate degree category, 3 semester hours in machine tool operations, 3 in maintenance technology, 1 in blueprint reading, and 1 in metallurgy (3/90).

Recommendation, MR2

In the lower-division baccalaureate/associate degree category, 6 semester hours in machine tool operations, 6 in maintenance technology, 2 in blueprint reading, 1 in maintenance management, and 2 in metallurgy (3/90).

Recommendation, MR1

In the lower-division baccalaureate/associate degree category, 9 semester hours in machine tool operations, 9 in maintenance technology, 3 in blueprint reading, 2 in record keeping, 2 in principles of supervision, 2 in maintenance management, and 2 in metallurgy (3/90).

Recommendation, MRC

In the lower-division baccalaureate/associate degree category, 9 semester hours in machine tool operations, 9 in maintenance technology, 3 in blueprint reading, 2 in record keeping, 3 in principles of supervision, 3 in maintenance management, and 2 in metallurgy (3/90).

Recommendation, MRCS

In the lower-division baccalaureate/associate degree category, 9 semester hours in machine tool operations, 9 in maintenance technology, 3 in blueprint reading, 2 in record keeping, 3 in principles of supervision, 4 in maintenance management, and 2 in metallurgy. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, MRCM

In the lower-division baccalaureate/associate degree category, 9 semester hours in machine tool operations, 9 in maintenance technology, 3 in blueprint reading, 2 in record keeping, 3 in principles of supervision, 5 in maintenance management, and 2 in metallurgy. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 6 in management problems (3/90).

NER-MS-002

MESS MANAGEMENT SPECIALIST
MS3
MS2
MS1
MSC
MSCS
MSCM

Exhibit Dates: 1/90–Present.

Occupational Field: 16 (Logistics).

Career Pattern

SN: Seaman (E-3). *MS3:* Mess Management Specialist, Third Class (E-4). *MS2:* Mess Management, Specialist, Second Class (E-5). *MS1:* Mess Management Specialist, First Class (E-6). *MSC:* Chief Mess Management Specialist (E-7). *MSCS:* Senior Chief Mess Management Specialist (E-8). *MSCM:* Master Chief Mess Management Specialist (E-9).

Description

Summary: Operates and manages Navy messes and living quarters established to feed and accommodate Navy personnel: assists supply officers in ordering, storing, accounting for, and preparing food; maintains housing facilities. *MS3:* Understands basic service techniques; measures, weighs, blends, and mixes various foods; prepares fruits, vegetables, meats, and salads by roasting, frying, broiling, and boiling; operates specialized food service equipment; portions and serves prepared food to consumers; maintains and cleans food service preparation and service areas and associated equipment; knows the causes and transmission method of foodborne diseases and the relationship to safe temperatures, storage, preparation, and serving of food; staffs reception facilities and provides housekeeping services in housing facilities. *MS2:* Able to perform the duties required for MS3; applies advanced service techniques; applies advanced culinary techniques; establishes work schedules and serving line procedures; assists in maintaining cost control procedures and the ordering, maintenance, and rotation of stock. *MS1:* Able to perform the duties required for MS2; supervises a food service facility; assigns duties and supervises preparation and serving methodology; maintains sales analysis records and ensures that the proper relationship of cost to portion control are maintained; ensures that sanitation measures are carried out; modifies the menu and preparation methods to meet forecasts; supervises food and beverage service and lodging operations. *MSC:* Able to perform the duties required for MS1; serves as the administrator of a small food service facility or as an intermediate supervisor in a large facility; plans and conducts training programs; prepares schedules; estimates, maintains, and interprets financial records; understands food and beverage cost control including schedule preparation and interpretation of financial records; understands the management of food and beverage service and lodging operations. *MSCS:* Able to perform the duties required for MSC; implements policies and procedures to attain organization objectives; administers a long-range planned maintenance program; selects, assigns, and evaluates personnel; establishes work priorities; organizes, schedules, and evaluates training programs; determines budgets and operating goals. *MSCM:* Able to perform the duties required for MSCS; establishes goals, objectives, and priorities in area of responsibility; reviews personnel equipment, and material requirements and determines future requirements and space utilization; develops interdepartment training programs; develops operating budgets and monitors expenditures.

Recommendation, MS3

In the lower-division baccalaureate/associate degree category, 3 semester hours in quantity food preparation and 2 for a food service internship (2/90).

Recommendation, MS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in quantity food preparation, 4 for a food service internship, and 3 in advanced culinary techniques (2/90).

Recommendation, MS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in quantity food preparation, 4 for a food service internship, 3 in advanced culinary techniques, and 1 in principles of supervision. In the upper-division baccalaureate category, 2 semester hours for field experience in hospitality management (2/90).

Recommendation, MSC

In the lower-division baccalaureate/associate degree category, 3 semester hours in quantity food preparation, 4 for a food service internship, 3 in advanced culinary techniques, and 2 in principles of supervision. In the upper-division baccalaureate category, 2 semester hours for field experience in hospitality management and 2 in food and beverage cost control (2/90).

Recommendation, MSCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in quantity food preparation, 4 for a food service internship, 3 in advanced culinary techniques, and 2 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in hospitality management, 2 in maintenance management, 3 in principles of management, and 2 in food and beverage cost control (2/90).

Recommendation, MSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in quantity food preparation, 4 for a food service internship, 3 in advanced culinary techniques, and 2 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in hospitality management, 3 in maintenance management, 3 in principles of management, and 3 in food and beverage cost control (2/90).

NER-MT-001

MISSILE TECHNICIAN
MT3
MT2
MT1
MTC

Exhibit Dates: 1/90–9/93.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *MT3:* Missile Technician, Third Class (E-4). *MT2:* Missile Technician, Second Class (E-5). *MT1:* Missile Technician, First Class (E-6). *MTC:* Chief Missile Technician (E-7). *FTCS:* Senior Chief Fire Technician (E-8). *FTCM:* Master Chief Fire Technician (E-9).

Description

Summary: Operates, tests, and repairs fleet ballistic missile systems and missile launcher equipment; performs maintenance (electrical, electronic, pneumatic, and hydraulic) on ballistic missiles and associated handling and launching equipment. *MT3:* Aligns and calibrates basic electronic circuits; under supervision, performs troubleshooting, calibration, adjustments, and tests on missile launcher and missile support equipment; uses circuit diagrams and mechanical drawings; identifies basic digital circuits; operates weapons system equipment; completes maintenance data forms. *MT2:* Able to perform the duties required for MT3; inspects and repairs pneumatic and hydraulic systems; isolates malfunctions and replaces defective electronic circuit components; performs troubleshooting, calibration, adjustments, and tests on missile, launcher, and missile support equipment; maintains logs and records; completes maintenance reports; inventories installed equipment. *MT1:* Able to perform the duties required for MT2; serves as a nuclear weapons handling supervisor; supervises the maintenance and operation of missile and missile launching and handling equipment; reviews completed maintenance forms; prepares weekly maintenance schedules. *MTC:* Able to perform the duties required for MT1; coordinates and directs maintenance programs; ensures compliance with nuclear weapons safety rules; prepares records and reports; prepares quarterly maintenance schedules; serves as shop supervisor.

Recommendation, MT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic elec-

tricity/electronics and 3 in applied mathematics (12/78).

Recommendation, MT2

In the vocational certificate category, 2 semester hours in applied physics. In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, and 2 in basic hydraulics (12/78).

Recommendation, MT1

In the vocational certificate category, 2 semester hours in applied physics. In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, 2 in basic hydraulics, 2 in personnel supervision, 2 in maintenance management, and 3 in human relations (12/78).

Recommendation, MTC

In the vocational certificate category, 2 semester hours in applied physics. In the lower-division baccalaureate/associate degree category, 6 semester hours in basic electricity/electronics, 3 in applied mathematics, 3 in basic blueprint reading, 2 in basic hydraulics, 3 in personnel supervision, 3 in maintenance management, 3 in human relations, and 1 in record keeping (12/78).

NER-MT-002

Missile Technician

MT3
MT2
MT1
MTC
MTCS
MTCM

Exhibit Dates: 10/93–Present.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *MT3:* Missile Technician, Third Class (E-4). *MT2:* Missile Technician, Second Class (E-5). *MT1:* Missile Technician, First Class (E-6). *MTC:* Chief Missile Technician (E-7). *MTCS:* Senior Chief Missile Technician (E-8). *MTCM:* Master Chief Missile Technician (E-9).

Description

Summary: Operates, tests, maintains, troubleshoots, and repairs ballistic missile weapons systems. *MT3:* Aligns, calibrates and, under supervision, troubleshoots and repairs all areas of the missile fire control system, guidance system, launcher system, and various test systems; troubleshoots and repairs digital and microprocessor-based electronic systems and a mainframe computer system; troubleshoots and repairs power supplies and other solid state analog circuits as well as control systems using electromechanical devices, hydraulics, and pneumatics; uses standard electronic test equipment such as meters, oscilloscopes, logic probes, and logic analyzers; uses and maintains an optical system; uses DOS-based computers for word processing as well as other administrative record keeping tasks. *MT2:* Able to perform the duties required for MT3; able to troubleshoot and diagnose problems to a greater degree than the MT3; maintains logs and records; completes maintenance reports; inventories equipment. *MT1:* Able to perform the duties required for MT2; serves as a nuclear weapons handling supervisor; supervises the work of subordinates; prepares weekly maintenance schedules. *MTC:* Able to perform the duties required for MT1; coordinates and directs maintenance programs; ensures compliance with nuclear weapons safety rules; prepares reports; prepares quarterly maintenance schedules; may serve as a shop supervisor. *MTCS:* Able to perform the duties required for MTC; advises and provides information on reliability, utilization, capabilities, and operations of the weapons department; reviews directives and instructions for attaining organizational objectives; prepares correspondence; organizes and schedules training programs; administers long-range maintenance programs. *MTCM:* Able to perform the duties required for MTCS; provides technical information and advice concerning operational employment of weapons equipment; plans, organizes, implements, and controls activities; forecasts future requirements and reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures; prepares staff studies.

Recommendation, MT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 5 in digital electronics, 3 in microprocessors, 2 in electronic systems troubleshooting and maintenance, 2 in computer systems troubleshooting and maintenance, 2 in control systems, 2 in solid state electronics, 1 in computer literacy, and 1 in optical systems (3/94).

Recommendation, MT2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 6 in digital electronics, 3 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 3 in control systems, 3 in solid state electronics, 1 in computer literacy, and 1 in optical systems (3/94).

Recommendation, MT1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 6 in digital electronics, 3 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 3 in control systems, 3 in solid state electronics, 1 in computer literacy, 1 in optical systems, 2 in records and information management, 2 in personnel supervision, and 1 in maintenance management (3/94).

Recommendation, MTC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 6 in digital electronics, 3 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 3 in control systems, 3 in solid state electronics, 1 in computer literacy, 1 in optical systems, 2 in records and information management, 3 in personnel supervision, and 2 in maintenance management (3/94).

Recommendation, MTCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 6 in digital electronics, 3 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 3 in control systems, 3 in solid state electronics, 1 in computer literacy, 1 in optical systems, 2 in records and information management, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management (3/94).

Recommendation, MTCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 6 in digital electronics, 3 in microprocessors, 3 in electronic systems troubleshooting and maintenance, 3 in computer systems troubleshooting and maintenance, 3 in control systems, 3 in solid state electronics, 1 in computer literacy, 1 in optical systems, 2 in records and information management, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in operations management, and 3 in organizational management (3/94).

NER-MU-001

Musician

MU3
MU2
MU1
MUC
MUCS
MUCM

Exhibit Dates: 1/90–1/93.

Occupational Field: 18 (Musician).

Career Pattern

SN: Seaman (E-3). *MU3:* Musician, Third Class (E-4). *MU2:* Musician, Second Class, (E-5). *MU1:* Musician, First Class (E-6). *MUC:* Chief Musician (E-7). *MUCS:* Senior Chief Musician (E-8). *MUCM:* Master Chief Musician (E-9).

Description

Summary: Provides music for various functions and ceremonies as members of Navy unit bands; performs on one or more designated instruments. NOTE: Musicians are further identified by the following NEC (Navy Enlisted Classification) codes: MU-3801 Flute/Piccolo Instrumentalist; MU-3802 Oboe Instrumentalist; MU-3803 Clarinet Instrumentalist; MU-3804 Bassoon Instrumentalist; MU-3805 Saxophone Instrumentalist; MU-3806 Trumpet/Cornet Instrumentalist; MU-3807 French Horn Instrumentalist; MU-3808 Baritone/Euphonium Instrumentalist; MU-3809 Trombone Instrumentalist; MU-3811 Tuba/String Bass Instrumentalist; MU-3812 Guitar/Bass Drum Instrumentalist; MU-3813 Percussion Instrumentalist; MU-3814 Piano/Bass Drum Instrumentalist; MU-3825 Vocalist; and MU-3851 Assistant Bandleader. *MU3:* Performs as a member of a musical ensemble; performs first parts of elementary music with good intonation and characteristic tone (and with good diction for vocalists); performs from memory all major and minor scales; is responsive to musical interpretation, including dynamics, tempo, musical terms, and devices peculiar to dance music; able to perform elementary melodic improvisation including alphabetical chord symbols notated in standard dance and popular music; able to identify, by sound, simple chord progressions used in popular music; able to identify, by sight and sound, major, minor, diminished, and augmented triads in root position and inversions; able to notate melodic (single part) dictation of elementary music, at sight, one tone higher or lower than written. *MU2:* Able to perform the duties required for MU3; performs first parts of intermediate music; performs intermediate melodic improvisation following the alphabetic chord symbols notated in standard dance and popular music; interprets chord symbols used in modern dance music up to and including seventh chords and identifies these chords with the correct symbols; performs, from memory, ten standard dance tunes and standard advanced solos; notates melodic (single part) dictation of intermediate music; identifies, by sound, intermediate chord progression used in popular music; arranges popular melodies for a five-piece combo; rehearses and prepares a small combo for public appearances; rehearses and conducts the national anthem and one prepared march. *MU1:* Able to perform the duties required for MU2; performs first parts of advanced music at sight; performs advanced melodic improvisation following the alphabetic chord symbols notated in standard dance and popular music; analyzes and identifies all chords from piano lead sheets and stock piano parts; performs, from memory, eighteen standard dance tunes and advanced solos; harmonizes melodies in four parts, indicating figured bass and using diatonic triads, dominant and diatonic seventh chords, higher dominant dischords, simple modulation, and secondary dominants; arranges songs for an instrumental/vocal ensemble; notates melodic, single part dictation in moderately difficult music; rehearses and conducts a ceremonial band in a program of marches, popular music, and ceremonial music; rehearses and prepares for public performance a dance band of at least eight instruments; assembles and maneuvers a marching band. *MUC:* Able to perform the duties required for MU1; performs advanced solos from memory; rehearses and conducts ten marches and three difficult selections or overtures; prepares a musical program for public performance utilizing dance band and/or combo and featuring solo or entertainment capabilities of band members; identifies, by sound, advanced chord progressions used in popular music; analyzes scores for harmonic content, modulations and nonharmonic tones and melodic and harmonic content of piano sheet music; corrects mistakes and omissions in printing of alphabetical chord symbols; arranges 32 or more measures including introduction and ending of a song or melody for a small concert band and a popular song or folk song for a seventeen-piece dance band; supervises professional and military instruction; supervises the daily operation of a performing unit of a Navy band; evaluates requests for band performances; initiates and coordinates the preparation of posters, pictures, biographies, radio/TV spots, news releases, programs, and other promotional material required for a Navy band; supervises reports, records maintenance, and other personnel administration requirements; supervises the custody, care, and maintenance of music material; prepares requests for procurement and disposition of music material. *MUCS:* Able to perform the duties required for MUC; conducts a large concert band in performance of advanced literature; prepares a musical program for radio or television, utilizing dance band and/or combo, and featuring solo or entertainment capabilities of band personnel; analyses dominant and diatonic seventh chords in root position and inversions; harmonizes melodies in four parts, indicating figured bass, using diatonic triads with inversions, dominant seventh chords with inversions, and nonharmonic tones; organizes and schedules training programs and evaluates their effectiveness; manages, schedules, and coordinates the rehearsal and performance of all units of a Navy band; manages the preparation and distribution of posters, pictures, biographies, radio/TV spots, news releases, programs, and other promotional material; establishes and implements an effective community relations program; manages nonmusical logistical support for Navy band; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; manages procurement, control, maintenance, and disposition of music, musical equipment, and supplies. *MUCM:* Able to perform the duties required for MUCS; plans, organizes, implements, and controls activities; establishes goals, objectives, and priorities; reviews personnel, equipment, and material requirements, and forecasts future requirements; evaluates musical background proficiency and potential of applicants for the Navy music program; develops operating budgets and monitors expenditures.

Recommendation, MU3

In the lower-division baccalaureate/associate degree category, 4 semester hours in music theory (including harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 2-4 in applied performance (individual instruction), and 2 in performing ensembles (3/79).

Recommendation, MU2

In the lower-division baccalaureate/associate degree category, 4 semester hours in music theory (including harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 2 in performing ensembles, 1 in elementary conducting, 1 in marching band, and 1 in concert band (3/79).

Recommendation, MU1

In the lower-division baccalaureate/associate degree category, 8 semester hours in music theory (including harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 4 in performing ensembles, 1 in elementary conducting, 2 in marching band, and 1 in concert band (3/79).

Recommendation, MUC

In the lower-division baccalaureate/associate degree category, 12 semester hours in music theory (including harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 1 in applied performance (secondary instrument), 4 in performing ensembles, 1 in elementary conducting, 3 in marching band, and 1 in concert band. In the upper-division baccalaureate category, 2 semester hours in arranging (3/79).

Recommendation, MUCS

In the lower-division baccalaureate/associate degree category, 16 semester hours in music theory (including harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 1 in applied performance (secondary instrument), 4 in performing ensembles, 1 in elementary conducting, 3 in marching band, and 1 in concert band. In the upper-division baccalaureate category, 4 semester hours in arranging, 2 in advanced conducting, 2 in band management, and 2 in personnel management (3/79).

Recommendation, MUCM

In the lower-division baccalaureate/associate degree category, 16 semester hours in music theory (including harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 1 in applied performance (individual instruction in secondary instrument), 4 in performing ensembles, 1 in elementary conducting, 3 in marching band, 1 in concert band, 1 in elementary class piano, 1 in instrumental techniques, and 2 in public speaking. In the upper-division baccalaureate category, 6 semester hours in arranging, 4 in advanced conducting, 3 in dance band techniques, 3 in band management, and 3 in personnel management. In the graduate degree category, 2 semester hours in advanced conducting (3/79).

NER-MU-002

MUSICIAN
MU3
MU2
MU1
MUC
MUCS
MUCM

Exhibit Dates: 2/93–Present.

Occupational Field: 18 (Musician).

Career Pattern

SN: Seaman (E-3). *MU3:* Musician, Third Class (E-4). *MU2:* Musician, Second Class, (E-5). *MU1:* Musician, First Class (E-6). *MUC:* Chief Musician (E-7). *MUCS:* Senior Chief Musician (E-8). *MUCM:* Master Chief Musician (E-9).

Description

Summary: Provides music for various functions and ceremonies as members of Navy unit bands; performs on one or more designated instruments. NOTE: Musicians are further identified by the following NEC (Navy Enlisted Classification) codes: MU-3801 Flute/Piccolo Instrumentalist; MU-3802 Oboe Instrumentalist; MU-3803 Clarinet Instrumentalist; MU-3804 Bassoon Instrumentalist; MU-3805 Saxophone Instrumentalist; MU-3806 Trumpet/Cornet Instrumentalist; MU-3807 French Horn Instrumentalist; MU-3808 Baritone/Euphonium Instrumentalist; MU-3809 Trombone Instrumentalist; MU-3811 Tuba/String Bass Instrumentalist; MU-3812 Guitar/Bass Drum Instrumentalist; MU-3813 Percussion Instrumentalist; MU-3814 Piano/Bass Drum Instrumentalist; MU-3825 Vocalist; and MU-3851 Assistant Bandleader. *MU3:* Performs preventive maintenance and makes minor repairs to assigned musical equipment; transposes and performs elementary music at sight; performs from memory all major and minor scales (percussionists perform all rudiments); performs from memory assigned first parts of the national anthem, honors, and ceremonial music; identifies by sight and sound major and minor triads in inversions; notates elementary melodic dictation; copies music legibly and accurately; performs as a member of ceremonial, dance, and concert band ensembles; improvises an elementary eight-bar melody following alphabetical chord symbols; sight reads intermediate literature; performs two standard melodies with a five-piece ensemble. *MU2:* Able to perform the duties required for MU3; notates intermediate melodic dictation; identifies elementary chord progressions by sound; arranges a standard dance tune for a two-horn, four-rhythm ensemble exhibiting the use of nonharmonic tones, dominant seventh chords, secondary triads, progressions, and cadences; rehearses and ensemble of at least six performers; plays improvised intermediate melodies following alphabetical chord symbols; conducts the national anthem and one prepared march; sight reads advanced music; harmonizes melodies in four parts using primary triads; performs advanced literature from memory; writes standard alphabetical symbols used in dance and modern music given notated chords; notates from memory melodic lines of the national anthem, honors, and ceremonial music; performs as an instrumental section leader; sets up and operates sound reinforcement equipment. *MU1:* Able to perform the duties required for MU2; notates advanced melodic dictation; harmonizes melodies in four parts using diatonic triads and dominant and diatonic seventh chords; writes an arrangement of a standard dance tune for a four-horn, four-rhythm ensemble exhibiting various voicing and ensemble methods; rehearses an ensemble of at least eight instrumentalists; plays improvised advanced melodies following alphabetical chord symbols; rehearses and conducts the national anthem, honors, and ceremonial music from memory; conducts a ceremonial band in public performance; assembles and maneuvers a marching band; prepares requests for procurement and disposition of music material. *MUC:* Able to perform the duties required for MU1; harmonizes melodies in four parts using advanced traditional harmonic techniques; identifies advanced chord progressions by sound; arranges a standard melody of 32 measures or more for a small concert band or 17-piece dance band; rehearses and conducts a small concert band or 17-piece dance band in a public performance featuring solo or entertainment capabilities of band personnel; supervises the daily operation of a performing unit of a Navy band; conducts auditions; manages nonmusical logistical support for a performing unit of a Navy band; evaluates requests for band performance. *MUCS:* Able to perform the duties required for MUC; rehearses and conducts a medium-sized concert band in a public performance; analyzes advanced compositions for harmonic content; manages, schedules, and coordinates the rehearsals and performances of all units of a Navy band; manages nonmusical logistical support for a Navy band; evaluates and provides information on the use, capabilities, reliability, and operations of all units of a Navy band. *MUCM:* Able to perform the duties required for MUCS; plans, organizes, implements, controls, and evaluates Navy band activities; rehearses and conducts a large concert band in public performance.

Recommendation, MU3

In the lower-division baccalaureate/associate degree category, 2 semester hours in music theory (harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 2-4 in applied performance (individual instruction), and 2 in performing ensembles (concert, jazz, and marching bands) (2/93).

Recommendation, MU2

In the lower-division baccalaureate/associate degree category, 4 semester hours in music theory (harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), and 4 in performing ensembles (concert, jazz, and marching bands). In the upper-division baccalaureate category, 1 semester hour in conducting (2/93).

Recommendation, MU1

In the lower-division baccalaureate/associate degree category, 8 semester hours in music theory (harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 6 in performing ensembles (concert, jazz, and marching bands), and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in conducting (2/93).

Recommendation, MUC

In the lower-division baccalaureate/associate degree category, 12 semester hours in music theory (harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 6-8 in performing ensembles (concert, jazz, and marching bands), and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in conducting, 2 in rehearsal techniques of conducting (concert and jazz), 2 in arranging, and 3 in logistics management (2/93).

Recommendation, MUCS

In the lower-division baccalaureate/associate degree category, 16 semester hours in music theory (harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 6-8 in performing ensembles (concert, jazz, and marching bands), and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in conducting, 2 in rehearsal techniques of conducting (concert and jazz), 4 in arranging, 2 in organizational management, and 3 in logistics management (2/93).

Recommendation, MUCM

In the lower-division baccalaureate/associate degree category, 16 semester hours in music theory (harmony, ear training, and sight singing), 2 in jazz theory/improvisation, 4-6 in applied performance (individual instruction), 6-8 in performing ensembles (concert, jazz, and marching bands), and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in conducting, 4 in rehearsal techniques of conducting (concert and jazz), 6 in arranging, 4 in organizational management, 3 in logistics management, and 3 in music business management (2/93).

NER-NC-002

NAVY COUNSELOR

NC1
NCC
NCCS
NCCM

Exhibit Dates: 1/90–11/97.

Occupational Field: 15 (Administration).

Career Pattern

May have progressed from Petty Officer, Second Class (E-5) of any rating. *NC1:* Navy Counselor, First Class (E-6). *NCC:* Chief Navy Counselor (E-7). *NCCS:* Senior Chief Navy Counselor (E-8). *NCCM:* Master Chief Navy Counselor (E-9).

Description

Summary: Interviews, advises, and counsels enlisted personnel about career development opportunities, benefits, and regulations; organizes and implements recruiting and retention programs. *NC1:* Prepares recruiting and preenlistment brochures and kits; writes news releases; supervises collateral duty career counselors; coordinates retention programs; instructs and trains recruiters and retention teams in counseling skills and Navy programs and benefits; writes and delivers public relations and recruiting talks; participates in community events; conducts interviews, counsels, and advises enlisted personnel; administers, scores, and records results of vocational preference and aptitude tests; informs personnel of local agencies capable of assisting Naval personnel and their families. *NCC:* Able to perform the duties required for NC1; trains and supervises subordinates; prepares and submits operating budgets for recruiting station; develops training schedules; trains recruiters in prospecting, sales, time management, recruit processing, and resource management; may specialize in career counseling, recruiting, or drugs and alcohol rehabilitation counseling. *NCCS:* Able to perform the duties required for NCC; may serve as area supervisor of a large counseling program; drafts correspondence; interviews, evaluates, and assigns personnel; verifies accuracy of administrative reports; collects, develops, and disseminates career program information; develops plans for organizing and implementing surveys; develops motivation programs; organizes and schedules training program for subordinates. *NCCM:* Able to perform the duties required for NCCS; forecasts future personnel requirements; plans and initiates action to satisfy personnel requirements; provides information to the command on regulations, procedures, and practices applicable to recruiting and retention; develops written materials for counseling program; evaluates effectiveness of recruiting and retention programs; monitors, analyzes, and makes recommendations concerning personnel utilization; provides technical assistance to subordinate commands; develops operating budget and monitors expenditures.

Recommendation, NC1

In the lower-division baccalaureate/associate degree category, 1 semester hour in applied psychology, 1 in community relations, 1 in management electives, 2 in interviewing techniques, 3 in communication (speech), 3 in communication (written), 3 in career information and counseling, and 3 in human relations (2/89).

Recommendation, NCC

In the lower-division baccalaureate/associate degree category, 1 semester hour in applied psychology, 1 in community relations, 2 in interviewing techniques, 2 in management electives, 3 in communication (speech), 3 in communication (written), 3 in career information and counseling, and 3 in human relations; if the duty assignment was career counselor, additional credit in applied psychology and in occupational choice and career analysis on the basis of institutional evaluation; if the duty assignment was drugs and alcohol rehabilitation counselor, additional credit in applied psychology, psychological counseling theory and techniques, behavior crisis intervention, and drug and alcohol abuse on the basis of institutional evaluation (2/89).

Recommendation, NCCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in applied psychology, 1 in community relations, 2 in interviewing techniques, 3 for field experience in management, 3 in communication (speech), 3 in communication (written), 3 in career information and counseling, 3 in human relations, and 3 in management electives; if the duty assignment was career counselor, additional credit in applied psychology and in occupational choice and career analysis on the basis of institutional evaluation; if the duty assignment was drugs and alcohol rehabilitation counselor, additional credit in applied psychology, psychological counseling theory and techniques, behavior crisis intervention, and drug and alcohol abuse on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours in problems in human relations (2/89).

Recommendation, NCCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in applied psychology, 1 in community relations, 2 in interviewing techniques, 3 in communication (speech), 3 in communication (written), 3 in career information and counseling, 3 in human relations, 3 for field experience in management, and 6 in management electives; if the duty assignment was career counselor, additional credit in applied psychology and in occupational choice and career analysis on the basis of institutional evaluation; if the duty assignment was drugs and alcohol rehabilitation counselor, additional credit in applied psychology, psychological counseling theory and techniques, behavior crisis intervention, and drug and alcohol abuse on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 for a practicum in vocational counseling, and 6 in problems in human relations (2/89).

NER-NC-003

NAVY COUNSELOR
NC1
NCC
NCCS
NCCM

Exhibit Dates: 12/97–Present.

Occupational Field: 15 (Administration).

Career Pattern

May have progressed from Petty Officer, Second Class (E-5) of any rating. *NC1:* Navy Counselor, First Class (E-6). *NCC:* Chief Navy Counselor (E-7). *NCCS:* Senior Chief Navy Counselor (E-8). *NCCM:* Master Chief Navy Counselor (E-9).

Description

Summary: Interviews, advises, and counsels enlisted personnel about career development opportunities, benefits, and regulations; organizes and implements recruiting and retention programs. *NC1:* Prepares recruiting and preenlistment brochures and kits; writes news releases; supervises nonschooled duty career counselors; coordinates retention programs; instructs and trains recruiters and retention teams in counseling skills and Navy programs and benefits; writes and delivers public relations and recruiting talks; participates in community events; conducts interviews, counsels, and advises enlisted personnel; administers, scores, and records results of vocational preference and aptitude tests; informs personnel of local agencies capable of assisting Naval personnel and their families; may specialize in career counseling or recruiting. *NCC:* Able to perform the duties required for NC1; trains and supervises subordinates; prepares and submits operating budgets for recruiting station; develops training schedules; trains recruiters in prospecting, sales, time management, recruit processing, and resource management; may specialize in career counseling, or recruiting. *NCCS:* Able to perform the duties required for NCC; may serve as area supervisor of a large counseling program; drafts correspondence; interviews, evaluates, and assigns personnel; verifies accuracy of administrative reports; collects, develops, and disseminates career program information; develops plans for organizing and implementing surveys; develops motivation programs; organizes and schedules training program for subordinates; evaluates retention programs for subordinate units. *NCCM:* Able to perform the duties required for NCCS; forecasts future personnel requirements; plans and initiates action to satisfy personnel requirements; provides information to the command on regulations, procedures, and practices applicable to recruiting and retention; develops written materials for counseling program; evaluates effectiveness of recruiting and retention programs; monitors, analyzes, and makes recommendations concerning personnel use; provides technical assistance to subordinate commands in implementing and planning retention programs and policies; develops operating budget and monitors expenditures.

Recommendation, NC1

In the lower-division baccalaureate/associate degree category, 3 semester hours in interpersonal communication, 3 in report writing, and 3 in career counseling. In the upper-division baccalaureate category, 3 semester hours in human resource management and 3 in applied psychology. If duty assignment was recruiting, additional credits as follows: in the lower-division baccalaureate/associate degree category, 3 semester hours in public relations; in the upper-division baccalaureate category, 3 semester hours in salesmanship and 3 in marketing (11/97).

Recommendation, NCC

In the lower-division baccalaureate/associate degree category, 3 semester hours in interpersonal communication, 3 in report writing, 3 in human relations, and 3 in career counseling. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in applied psychology, and 3 in personnel management problems. If duty assignment was recruiting, additional credits as follows: in the lower-division baccalaureate/associate degree category, 3 semester hours in public relations; in the upper-division baccalaureate category, 3 semester hours in salesmanship and 3 in marketing (11/97).

Recommendation, NCCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in interpersonal communication, 3 in report writing, 3 in human relations, and 3 in career counseling. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in applied psychology, 3 in personnel management, 3 in vocational counseling, and 6 for field experience in personnel relations. If duty assignment was recruiting, additional credits as follows: in the lower-division baccalaureate/associate degree category, 3 semester hours in public relations; in the upper-division baccalaureate category, 3 semester hours in salesmanship and 3 in marketing (11/97).

Recommendation, NCCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in interpersonal communication, 3 in report writing, 3 in human relations, and 3 in career counseling. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in applied psychology, 3 in personnel management, 3 in vocational counseling, 3 in program management, and 6 for field experience in personnel relations. If duty assignment was recruiting, additional credits as follows: in the lower-division baccalaureate/associate degree category, 3 semester hours in public relations; in the upper-division baccalaureate category, 3 semester hours in salesmanship and 3 in marketing (11/97).

NER-OM-002

OPTICALMAN
OM3
OM2
OM1
OMC
OMCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

SN: Seaman (E-3). *OM3:* Opticalman, Third Class (E-4). *OM2:* Opticalman, Second Class (E-5). *OM1:* Opticalman, First Class (E-6). *OMC:* Chief Opticalman (E-7). *OMCS:* Senior Chief Opticalman (E-8). *PICM:* Master Chief Precision Instrumentman (E-9).

Description

Summary: Performs maintenance on small navigational instruments, binoculars, gun sights, range finders, submarine and turret periscopes, night vision sights, and other optical instruments. *OM3:* Operates lathe, milling machine, bench grinder, and drill press; joins metal by soft and silver solder; repairs and overhauls binoculars, telescopes, marine alidades, fixed prism gun sight telescopes, azimuth and bearing circles, sextants, stadimeters, and magnetic compasses; performs maintenance on image-intensifying and night vision sights and on external fittings of submarine periscopes; recements lenses using a lens centering instrument; uses the metric and English systems of measurement to determine focal lengths, dioptric strength, and magnifying power of a positive and negative lens; uses and maintains hand tools; completes maintenance data forms. *OM2:* Able to perform the duties required for OM3; reads blueprints and sketches; makes mechanical parts for optical instruments; removes and installs submarine periscopes; repairs and overhauls ship-mounted binoculars, submarine periscopes, and tilting-prism gun sight telescopes; completes maintenance reports; inventories installed equipment; orders repair parts and tools. *OM1:* Able to perform the duties required for OM2; establishes alignment references, autocollination, base and line transfer, and azimuth transfer; performs complete overhaul of Mk 21 range finders; prepares and maintains records, logs, reports, and work requests; maintains current naval publications concerning standard optical equipment; reviews completed maintenance data forms; prepares weekly maintenance schedule. *OMC:* Able to perform the duties required for OM1; coordinates repair and maintenance programs for measuring instruments; supervises equipment inspections; supervises training of personnel in repair and overhaul of optical equipment; plans, schedules, and assigns repair work; prepares quarterly maintenance schedules; supervises repair of precision measuring mechanical and optical instruments; performs laboratory calibration services providing standards for pressure, temperature, flow, and linear measurements. *OMCS:* Able to perform the duties required for OMC; prepares directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to assure maximum utilization; administers repair maintenance records; organizes, schedules, and evaluates training programs; coordinates quality assurance audits; prepares work estimates; administers a long-range planned maintenance program.

Recommendation, OM3

In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 2 in machine tool operation, 1 in electromechanical technology, 3 in optical laboratory, and 1 in record keeping (3/90).

Recommendation, OM2

In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 3 in machine tool operation, 2 in electronic systems troubleshooting and repair, 2 in electromechanical technology, 4 in optical laboratory, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, OM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 2 in maintenance management, 2 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, OMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision (3/90).

Recommendation, OMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

NER-OM-003

OPTICALMAN
OM3
OM2
OM1
OMC
OMCS
OMCM

Exhibit Dates: 1/91–Present.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

SN: Seaman (E-3). *OM3:* Opticalman, Third Class (E-4). *OM2:* Opticalman, Second Class (E-5). *OM1:* Opticalman, First Class (E-6). *OMC:* Chief Opticalman (E-7). *OMCS:* Senior Chief Opticalman (E-8). *OMCM:* Master Chief Opticalman (E-9).

Description

Summary: Performs maintenance on small navigational instruments, binoculars, gun sights, range finders, submarine and turret periscopes, night vision sights, and other optical instruments. *OM3:* Operates lathe, milling machine, bench grinder, and drill press; joins metal by soft and silver solder; repairs and overhauls binoculars, telescopes, marine alidades, fixed prism gun sight telescopes, azimuth and bearing circles, sextants, stadimeters, and magnetic compasses; performs maintenance on image-intensifying and night vision sights and on external fittings of submarine periscopes; recements lenses using a lens centering instrument; uses the metric and English systems of measurement to determine focal lengths, dioptric strength, and magnifying power of a positive and negative lens; uses and maintains hand tools; completes maintenance data forms. *OM2:* Able to perform the duties required for OM3; reads blueprints and sketches; makes mechanical parts for optical instruments; removes and installs submarine periscopes; repairs and overhauls ship-mounted binoculars, submarine periscopes, and tilting-prism gun sight telescopes; completes maintenance reports; inventories installed equipment; orders repair parts and tools. *OM1:* Able to perform the duties required for OM2; establishes alignment references, autocollination, base and line transfer, and azimuth transfer; performs complete overhaul of Mk 21 range finders; prepares and maintains records, logs, reports, and work requests; maintains current naval publications concerning standard optical equipment; reviews completed maintenance data forms; prepares weekly maintenance schedule. *OMC:* Able to perform the duties required for OM1; coordinates repair and maintenance programs for measuring instruments; supervises equipment inspections; supervises training of personnel in repair and overhaul of optical equipment; plans, schedules, and assigns repair work; prepares quarterly maintenance schedules; supervises repair of precision measuring mechanical and optical instruments; provides laboratory calibration services providing standards for pressure, temperature, flow, and linear measurements. *OMCS:* Able to perform the duties required for OMC; prepares directives and instructions for attaining organization objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; administers repair maintenance records; organizes, schedules, and evaluates training programs; coordinates quality assurance audits; prepares work estimates; administers a long-range planned maintenance program. *OMCM:* Able to perform the duties required for OMCS; develops procedures for conducting safety programs and monitoring compliance; plans, organizes, implements, and controls activities in accordance with policies and directives; forecasts future requirements; assists in the management of records; coordinates liaison between repair activities and ship or shipyard; manages repair division; schedules repair work; develops operating budgets and monitors expenditures.

Recommendation, OM3

In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 2 in machine tool operation, 1 in electromechanical technology, 3 in optical laboratory, and 1 in record keeping (3/90).

Recommendation, OM2

In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 3 in machine tool operation, 2 in electronic systems troubleshooting and repair, 2 in electromechanical technology, 4 in optical laboratory, 1 in record keeping, and 1 in principles of supervision (3/90).

Recommendation, OM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 2 in maintenance management, 2 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, OMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision (3/90).

Recommendation, OMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/90).

Recommendation, OMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 3 in machine tool operation, 3 in electronic systems troubleshooting and repair, 3 in electromechanical technology, 4 in optical laboratory, 3 in maintenance management, 2 in record keeping, and 3 in principles of supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/90).

NER-OS-002

Operations Specialist
OS3
OS2
OS1
OSC
OSCS
OSCM

Exhibit Dates: 1/90–4/96.

Occupational Field: 2 (Ship Operations).

Career Pattern

SN: Seaman (E-3). *OS3:* Operations Specialist, Third Class (E-4). *OS2:* Operations Specialist, Second Class (E-5). *OS1:* Operations Specialist, First Class (E-6). *OSC:* Chief Operations Specialist (E-7). *OSCS:* Senior Chief Operations Specialist (E-8). *OSCM:* Master Chief Operations Specialist (E-9).

Description

Summary: Operates radar and associated equipment; identifies and maintains a display (plot) of the movement of ships, aircraft, missiles, and natural objects detected by observing a radar; maintains a radar navigation plot of own ship's movement; evaluates information collected by radar and appropriately disseminates it; performs routine preventive maintenance on radar equipment; operates radiotelephones. *OS3:* Operates a radar/console screen, observing objects detected by the radar and displayed on the radar screen; identifies the objects detected, determines their movement, and disseminates this information to users by internal communications systems; operates radiotelephones; plots and maintains current display of objects detected; determines own ship's position on nautical charts using ranges, bearing, and standard navigational symbols; changes given positions into grid coordinates; knows the basic functions and interrelations of the modulator, receiver, antenna, control, and indicator units; reads electronic block diagrams; solves maneuvering board problems for course, speed, closest point of approach, true wind, and desired wind. *OS2:* Able to perform the duties required for OS3; tests radar and associated electronic equipment; supervises and trains personnel operating radar and associated electronic equipment, plotting display information, operating radiotelephones and keeping logs; solves course and speed problems using polar coordinate graph paper; performs duties of marine coastal radar navigator using nautical charts; maintains strategic geographic and surface plots; interprets international and inland nautical rules of the road. *OS1:* Able to perform the duties required for OS2; assigns duties to operations specialist personnel and supervises their performance; performs as supervisor of a watch section directing the task performance of plotters, radiotelephone operators, and other members of the watch section; prepares weekly preventive maintenance schedules. *OSC:* Able to perform the duties required for OS1; supervises the training program for operation specialists; prepares quarterly preventive maintenance schedules; supervises the performance of preventive maintenance; serves as an assistant to the officer in charge of the communications information center; serves as piloting officer during radar-assisted piloting. *OSCS:* Able to perform the duties required for OSC; prepares correspondence, other written instructions, and directives; organizes, schedules, and evaluates training programs; administers long-range radar equipment maintenance program; provides superiors with information and advice on utilization and capabilities of personnel, equipment, and material in area of responsibility; interviews, evaluates, and assigns personnel; establishes work priorities. *OSCM:* Able to perform the duties required for OSCS; performs technical administrative functions; establishes objectives and sets priorities; reviews personnel, equipment, and material requirements; plans, organizes, and implements activities in accordance with policies and procedures; coordinates repair and maintenance programs in accordance with ship's operating schedule; develops budgets and monitors expenditures.

Recommendation, OS3

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 2 in seamanship, 1 in computer applications, 1 in technical mathematics, and 2 in electronic systems maintenance (12/89).

Recommendation, OS2

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 1 in personnel supervision, and 1 in record keeping (12/89).

Recommendation, OS1

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, and 1 in supply management (12/89).

Recommendation, OSC

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 2 in supply management, and 1 in personnel administration (12/89).

Recommendation, OSCS

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 2 in supply management, and 1 in personnel administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, OSCM

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 2 in supply management, and 1 in personnel administration. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-OS-003

Operations Specialist
OS3
OS2
OS1
OSC
OSCS
OSCM

Exhibit Dates: 5/96–Present.

Occupational Field: 2 (Ship Operations).

Career Pattern

SN: Seaman (E-3). *OS3:* Operations Specialist, Third Class (E-4). *OS2:* Operations Specialist, Second Class (E-5). *OS1:* Operations Specialist, First Class (E-6). *OSC:* Chief Operations Specialist (E-7). *OSCS:* Senior Chief Operations Specialist (E-8). *OSCM:* Master Chief Operations Specialist (E-9).

Description

Summary: Operates radar and associated equipment; identifies and maintains a display (plot) of the movement of ships, aircraft, missiles, and natural objects detected by observing a radar; maintains a radar navigation plot of own ship's movement; evaluates information collected by radar and appropriately disseminates it; performs routine preventive maintenance on radar equipment; operates radiotelephones. *OS3:* Operates a radar/console screen, observing objects detected by the radar and displayed on the radar screen; identifies the objects detected, determines their movement, and disseminates this information to users by internal communications systems; operates radiotelephones; plots and maintains current display of objects detected; determines own ship's position on nautical charts using ranges, bearing, and standard navigational symbols; changes given positions into grid coordinates; knows the basic functions and interrelations of the modulator, receiver, antenna, control, and indicator units; reads electronic block diagrams; solves maneuvering board problems for course, speed, closest point of approach, true wind, and desired wind. *OS2:* Able to perform the duties required for OS3; tests radar and associated electronic equipment; supervises and trains personnel operating radar and associated electronic equipment, plotting display information, operating radiotelephones and keeping logs; solves course and speed problems using polar coordinate graph paper; performs duties of marine coastal radar navigator using nautical charts; maintains strategic geographic and surface plots; interprets international and inland nautical rules of the road. *OS1:* Able to perform the duties required for OS2; assigns duties to operations specialist personnel and supervises their performance; performs as supervisor of a watch section directing the task performance of plotters, radiotelephone operators, and other members of the watch section; prepares weekly preventive maintenance schedules. *OSC:* Able to perform the duties required for OS1; supervises the training program for operation specialists; prepares quarterly preventive maintenance schedules; supervises the performance of preventive maintenance; serves as an assistant to the officer in charge of the communications information center; serves as piloting officer during radar-assisted piloting. *OSCS:* Able to perform the duties required for OSC; prepares correspondence, other written instructions, and directives; organizes, schedules, and evaluates training programs; administers long-range radar equipment maintenance program; provides superiors with information and advice on utilization and capabilities of personnel, equipment, and material in area of responsibility; interviews, evaluates, and assigns personnel; establishes work priorities. *OSCM:* Able to perform the duties required for OSCS; performs technical administrative functions; establishes objectives and sets priorities; reviews personnel, equipment, and material requirements; plans, organizes, and implements activities in accordance with policies and procedures; coordinates repair and maintenance programs in accordance with ship's operating schedule; develops budgets and monitors expenditures.

Recommendation, OS3

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 2 in seamanship, 1 in computer applications, 1 in technical mathematics, 2 in electronic systems maintenance, and 1 in introduction to computers (5/96).

Recommendation, OS2

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 1 in personnel supervision, 1 in record keeping, and 1 in introduction to computers (5/96).

Recommendation, OS1

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 1 in supply management, and 2 in introduction to computers (5/96).

Recommendation, OSC

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 2 in supply management, and 3 in introduction to computers (5/96).

Recommendation, OSCS

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 2 in supply management, and 3 in introduction to computers. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (5/96).

Recommendation, OSCM

In the vocational certificate category, 3 semester hours in radar operations. In the lower-division baccalaureate/associate degree category, 3 semester hours in navigation, 3 in seamanship, 1 in computer applications, 3 in technical mathematics, 3 in electronic systems maintenance, 3 in radar navigation, 3 in personnel supervision, 1 in record keeping, 2 in supply management, and 3 in introduction to computers. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (5/96).

NER-OT-002

OCEAN SYSTEMS TECHNICIAN, MASTER CHIEF
OTCM

Exhibit Dates: 1/90–Present.

Occupational Field: 10 (Sensor Operations).

Career Pattern

May progress to OTCM, Master Chief Ocean Systems Technician (E-9), from either OTACS, Senior Chief Ocean Systems Technician, Analyst (E-8), or OTMCS, Senior Chief Ocean Systems Technician, Maintainer (E-8).

Description

Able to perform the duties required for OTACS, Senior Chief Ocean Systems Technician, Analyst, or OTMCS, Senior Chief Ocean Systems Technician, Maintainer; performs technical and operational administrative functions; establishes objectives and goals; plans, organizes, and controls activities to achieve objectives; serves as a technical advisor in the maintenance and operations areas; develops budgets and monitors expenditures.

Recommendation

In the lower-division baccalaureate/associate degree category, if the individual progressed to OTCM from OTACS, Senior Chief Ocean Systems Technician, Analyst, grant the credit for OTACS in exhibit NER-OTA-001; if the individual progressed from OTMCS, Senior Chief Ocean Systems Technician, Maintainer, grant the credit for OTMCS in exhibit NER-OTM-001. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/85).

NER-OTA-001

OCEAN SYSTEMS TECHNICIAN, ANALYST
OTA3
OTA2
OTA1
OTAC
OTACS

Exhibit Dates: 1/90–Present.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman. OTA3: Ocean Systems Technician, Analyst, Third Class (E-4). OTA2: Ocean Systems Technician, Analyst, Second Class (E-5). OTA1: Ocean Systems Technician, Analyst, First Class (E-6). OTAC: Chief Ocean Systems Technician, Analyst (E-7). OTACS: Senior Chief Ocean Systems Technician, Analyst (E-8). *OTCM:* Master Chief Ocean Systems Technician (E-9).

Description

Summary: Collects oceanographic data on underwater acoustical signals; processes this information for automatic data processing and forwards information to superiors; has knowledge of basic oceanography, underwater acoustics, sonar systems, and computer data input. *OTA3:* Analyzes various acoustic displays and converts displayed information into a format acceptable for computer inputs; operates computer systems. *OTA2:* Able to perform the duties required for OTA3; performs plotting and navigation tasks; has knowledge of a variety of acoustic signal processors designed to collect data on underwater sound. *OTA1:* Able to perform the duties required for OTA2; trains and supervises subordinates; serves as watch coordinator directing and supervising the performance of 4-20 persons in the watch section. *OTAC:* Able to perform the duties required for OTA1; supervises the training of personnel in the operation of underwater acoustic equipment and in the gathering and processing of oceanographic data. *OTACS:* Able to perform the duties required for OTAC; prepares correspondence and written inspections; organizes schedules and evaluates training programs; implements a program for evaluating and assigning personnel.

Recommendation, OTA3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing and credit in oceanography on the basis of institutional evaluation (10/85).

Recommendation, OTA2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing and credit in oceanography on the basis of institutional evaluation (10/85).

Recommendation, OTA1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in personnel supervision, 2 in introduction to management, and credit in oceanography on the basis of institutional evaluation (10/85).

Recommendation, OTAC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in personnel supervision, 3 in introduction to management, and credit in oceanography on the basis of institutional evaluation (10/85).

Recommendation, OTACS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to data processing, 3 in personnel supervision, 3 in introduction to management, and credit in oceanography on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/85).

NER-OTM-001

Ocean Systems Technician, Maintainer
OTM3
OTM2
OTM1
OTMC
OTMCS

Exhibit Dates: 1/90–Present.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman. OTM3: Ocean Systems Technician, Maintainer, Third Class (E-4). OTM2: Ocean Systems Technician, Maintainer, Second Class (E-5). OTM1: Ocean Systems Technician, Maintainer, First Class (E-6). OTMC: Chief Ocean Systems Technician, Maintainer (E-7). OTMCS: Senior Chief Ocean Systems Technician, Maintainer (E-8). *OTCM:* Master Chief Ocean Systems Technician (E-9).

Description

Summary: Performs preventive maintenance, troubleshooting, and repair on all operational systems (containing both analog and digital equipment including digital computer) used by Ocean Systems Technicians. *OTM3:* Repairs and performs maintenance on several operational systems; uses basis test equipment, schematics, and instruction manuals to troubleshoot electronic equipment. *OTM2:* Able to perform the duties required for OTM3; repairs and performs maintenance on additional operational systems; solves more complex troubleshooting problems; works with digital equipment and computers. *OTM1:* Able to perform the duties required for OTM2; has acquired extensive background in the maintenance and repair of the operational systems; solves nonroutine troubleshooting problems; supervises the maintenance and repair of oceanographic/acoustic equipment. *OTMC:* Able to perform the duties required for OTM1; supervises the training of personnel in the maintenance and repair of oceanographic/acoustic equipment; administers a maintenance and repair program. *OTMCS:* Able to perform the duties required for OTMC; prepares written instructions and correspondence; organizes, schedules, and evaluates training program; develops and implements a program for evaluating and assigning personnel.

Recommendation, OTM3

In the lower-division baccalaureate/associate degree category, 2 semester hours in applied mathematics, 2 in basic electronics, 3 in circuit theory, 2 in systems maintenance, 3 in digital electronics, 2 in microprocessors, and 2 in computer organization (10/85).

Recommendation, OTM2

In the lower-division baccalaureate/associate degree category, 2 semester hours in applied mathematics, 2 in basic electronics, 3 in circuit theory, 4 in systems maintenance, 3 in digital electronics, 3 in microprocessors, and 2 in computer organization (10/85).

Recommendation, OTM1

In the lower-division baccalaureate/associate degree category, 2 semester hours in applied mathematics, 2 in basic electronics, 3 in circuit theory, 5 in systems maintenance, 3 in digital electronics, 3 in microprocessors, 3 in computer organization, 3 in personnel supervision, 2 in maintenance management, and 2 in introduction to management (10/85).

Recommendation, OTMC

In the lower-division baccalaureate/associate degree category, 2 semester hours in applied mathematics, 2 in basic electronics, 3 in circuit theory, 5 in systems maintenance, 3 in digital electronics, 3 in microprocessors, 3 in computer organization, 3 in personnel supervision, 3 in maintenance management, and 3 in introduction to management (10/85).

Recommendation, OTMCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in applied mathematics, 2 in basic electronics, 3 in circuit theory, 5 in systems maintenance, 3 in digital electronics, 3 in microprocessors, 3 in computer organization, 3 in personnel supervision, 3 in maintenance management, and 3 in introduction to management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/85).

NER-PC-002

Postal Clerk
PC3
PC2
PC1
PCC
PCCS
PCCM

Exhibit Dates: 1/90–11/97.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *PC3:* Postal Clerk, Third Class (E-4). *PC2:* Postal Clerk, Second Class (E-5). *PC1:* Postal Clerk, First Class (E-6). *PCC:* Chief Postal Clerk (E-7). *PCCS:* Senior Chief Postal Clerk (E-8). *PCCM:* Master Chief Postal Clerk (E-9).

Description

Summary: Operates Navy post office. *PC3:* Performs postal counter work, including selling stamps, processing international money orders, and collecting and remitting COD charges; performs general clerical duties including mail sorting and distribution and record maintenance; advises personnel on packaging and preparation of customs declarations; able to type 20 words per minute. *PC2:* Able to perform the duties required for PC3; establishes mail transportation schedules and routes; supervises and trains personnel in the operation of a Navy post office; supervises preparation, maintenance, and distribution of local postal records and reports. *PC1:* Able to perform the duties required for PC2; audits and reviews inspection reports of Navy post offices; prepares parent office reports; collects and remits postage meter funds; able to assume the duties, responsibilities, and functions of a postal officer when necessary. *PCC:* Able to perform the duties required for PC1; supervises postal counter and sorting activities; ensures compliance with customs procedures; audits Navy post offices; supervises postal office procedures in a large Navy post office. *PCCS:* Able to perform the duties required for PCC; conducts inspections of Navy post offices and develops recommendations for the improvement of postal operations; prepares correspondence; develops evaluation programs dealing with personnel and management efficiency; conducts work simplification and efficiency analysis. *PCCM:* Able to perform the duties required for PCCS; develops and monitors operating budgets; forecasts future manpower and material requirements; develops basic plans for implementing policy statements and directives; establishes goals, objectives, and priorities in own area of responsibility; develops operating budget and monitors expenditures; develops transportation plans for mail routing in bulk.

Recommendation, PC3

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in interpersonal communication or postal customer services, and 3 in postal practices and procedures (3/90).

Recommendation, PC2

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 2 in interpersonal communication or postal customer services, 4 in postal practices and procedures, and 3 in postal delivery and collection (3/90).

Recommendation, PC1

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, and 3 in clerical procedures. In the upper-division baccalaureate category, 2 semester hours in logistics management (3/90).

Recommendation, PCC

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, 3 in clerical procedures, 3 in principles of supervision, and 3 in postal problems analysis. In the upper-division baccalaureate category, 3 semester hours in logistics management (3/90).

Recommendation, PCCS

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, 3 in clerical procedures, 3 in principles of supervision, 3 in postal problems analysis, and 2 in technical writing. In the upper-division baccalaureate category, 3 semester hours in management problems and 3 in logistics management (3/90).

Recommendation, PCCM

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, 3 in clerical procedures, 3 principles of supervision, 3 in postal problems analysis, and 3 in technical writing. In the upper-division baccalaureate category, 3 semester hours in management problems and 3 in logistics management (3/90).

NER-PC-003

POSTAL CLERK

PC3
PC2
PC1
PCC
PCCS
PCCM

Exhibit Dates: 12/97–Present.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *PC3:* Postal Clerk, Third Class (E-4). *PC2:* Postal Clerk, Second Class (E-5). *PC1:* Postal Clerk, First Class (E-6). *PCC:* Chief Postal Clerk (E-7). *PCCS:* Senior Chief Postal Clerk (E-8). *PCCM:* Master Chief Postal Clerk (E-9).

Description

Summary: Operates Navy post office. *PC3:* Performs postal counter work, including selling stamps, processing international money orders, handling certified, registered, and official mail, and collecting and remitting COD charges; performs general clerical duties, including mail sorting and distribution and record maintenance; advises personnel on packaging and preparation of customs declarations; operates automated mail processing equipment including data input. *PC2:* Able to perform the duties required for PC3; establishes mail transportation schedules and routes; supervises and trains personnel in the operation of a Navy post office; supervises preparation, maintenance, and distribution of local postal records and reports. *PC1:* Able to perform the duties required for PC2; audits and reviews inspection reports of Navy post offices; prepares parent office reports; collects and remits postage meter funds; assumes the duties, responsibilities, and functions of a postal officer when necessary. *PCC:* Able to perform the duties required for PC1; supervises postal counter and sorting activities; ensures compliance with customs procedures; audits Navy post offices; supervises postal office procedures in a large Navy post office. *PCCS:* Able to perform the duties required for PCC; conducts inspections of Navy post offices and develops recommendations for the improvement of postal operations; prepares correspondence; develops evaluation programs dealing with personnel and management efficiency; conducts work simplification and efficiency analysis. *PCCM:* Able to perform the duties required for PCCS; develops and monitors operating budgets; forecasts future manpower and material requirements; develops basic plans for implementing policy statements and directives; establishes goals, objectives, and priorities in own area of responsibility; develops operating budget and monitors expenditures; develops transportation plans for mail routing in bulk.

Recommendation, PC3

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 2 in interpersonal communication or postal customer services, and 3 in postal practices and procedures (11/97).

Recommendation, PC2

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 2 in interpersonal communication or postal customer services, 4 in postal practices and procedures, and 3 in postal delivery and collection (11/97).

Recommendation, PC1

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, and 3 in clerical procedures. In the upper-division baccalaureate category, 2 semester hours in logistics management (11/97).

Recommendation, PCC

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, 3 in clerical procedures, 3 in principles of supervision, and 3 in postal problems analysis. In the upper-division baccalaureate category, 3 semester hours in logistics management (11/97).

Recommendation, PCCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, 3 in clerical procedures, 3 in principles of supervision, 3 in postal problems analysis, and 2 in technical writing. In the upper-division baccalaureate category, 3 semester hours in management problems and 3 in logistics management (11/97).

Recommendation, PCCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in interpersonal communication or postal customer services, 6 in postal practices and procedures, 3 in postal delivery and collection, 2 in record keeping, 3 in clerical procedures, 3 principles of supervision, 3 in postal problems analysis, and 3 in technical writing. In the upper-division baccalaureate category, 3 semester hours in management problems and 3 in logistics management (11/97).

NER-PH-001

PHOTOGRAPHER'S MATE

Exhibit Dates: 1/90–2/94.

Occupational Field: 17 (Media).

Career Pattern

AN: Airman (E-3). *PH3:* Photographer's Mate, Third Class (E-4). *PH2:* Photographer's Mate, Second Class (E-5). *PH1:* Photographer's Mate, First Class (E-6). *PHC:* Chief Photographer's Mate (E-7). *PHCS:* Senior Chief Photographer's Mate (E-8). *PHCM:* Master Chief Photographer's Mate (E-9).

Description

Summary: Makes pictorial records of historical and newsworthy events, finished prints, strip photographs, and mosaics; maintains photographic equipment and accessories.

NER-PH-002

PHOTOGRAPHER'S MATE

PH3
PH2
PH1
PHC
PHCS
PHCM

Exhibit Dates: 3/94–Present.

Occupational Field: 17 (Media).

Career Pattern

AN: Airman (E-3). *PH3:* Photographer's Mate, Third Class (E-4). *PH2:* Photographer's Mate, Second Class (E-5). *PH1:* Photographer's Mate, First Class (E-6). *PHC:* Chief Photographer's Mate (E-7). *PHCS:* Senior Chief Photographer's Mate (E-8). *PHCM:* Master Chief Photographer's Mate (E-9).

Description

Summary: Provides pictorial documentation of air, surface, and subsurface events using still and motion media events, as required. This includes aboard ship and shore events, direct support to intelligence center functions, aerial reconnaissance, and multimedia productions; other responsibilities include black-and-white and color darkroom work, electronic imagery, studio photography, photo lab and camera maintenance, filing and record keeping, management, and supervision. *PH3:* Selects appropriate black-and-white film and appropriate composition techniques; shoots studio individual and group portraits, documentary, investigative, and intelligence photos with flash, sunlight, and existing light; utilizes light meters and proper lighting ratios; corrects image distortion of building and structures; uses electronic and optical imaging; sorts and mounts slides and prints; processes black-and-white images by hand and machine; operates color printers; performs maintenance on equipment; disposes of chemicals properly; complies with copyright and security requirements; prepares job orders and data sheets; ensures quality control with proper density and sensitometric strips. *PH2:* Able to perform the duties required for PH3; shoots motion picture, aerial, and picture stories; processes color negatives and positives; prints and produces color transparencies; performs start-up and shutdown procedures for automated processing equipment; operates silver recovery units; inspects prints for content and quality; performs many chemical monitoring tasks; ships photographic materials; inventories photographic materials and equipment. *PH1:* Able to perform the duties required for PH2; advises customers of imaging capabilities and products; monitors silver recovery process; inspects final product for quality assurance; evaluates operational capabilities and performance; supervises camera crew and production session; schedules preventative maintenance; coordinates aerial photo missions; instructs personnel in equipment, techniques, maintenance, safety, and security. *PHC:* Able to perform the duties required for PH1; plans special interest items; monitors environmental control procedures and silver recovery program; reviews requests for technical assistance; verifies compliance with copyrights; coordinates imaging missions; prepares and submits imaging reports; ensures compliance with photo quality assurance and quality control programs; supervises an imaging division with training and safety procedures; prepares photo operational budget; determines photo equipment and supply requirements. *PHCS:* Able to perform the duties required for PHC; prepares local directives and instructions; interviews, evaluates, and assigns personnel to ensure maximum utilization; organizes, schedules, and evaluates training programs; determines photographic equipment and supply requirements; coordinates procurement. *PHCM:* Able to perform the duties required for PHCS; reviews manpower authorizations; reviews personnel, equipment, and material requirements and forecasts future needs; establishes goals and sets priorities; develops operating budgets and monitors expenditures.

Recommendation, PH3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic photography, 3 in advanced photographic techniques, 3 in studio photography, 3 in camera and imaging operation, and 3 in darkroom techniques (3/94).

Recommendation, PH2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic photography, 3 in advanced photographic techniques, 3 in studio photography, 3 in camera and imaging operation, 3 in darkroom techniques, 3 in color photography, and 3 in video/television production (3/94).

Recommendation, PH1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic photography, 3 in advanced photographic techniques, 3 in studio photography, 3 in camera and imaging operation, 3 in darkroom techniques, 3 in color photography, 3 in video/television production, 3 in photo project supervision, 2 in personnel supervision, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours for a photography practicum (3/94).

Recommendation, PHC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic photography, 3 in advanced photographic techniques, 3 in studio photography, 3 in camera and imaging operation, 3 in darkroom techniques, 3 in color photography, 3 in video/television production, 3 in photo project supervision, 3 in personnel supervision, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours for a photography practicum (3/94).

Recommendation, PHCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic photography, 3 in advanced photographic techniques, 3 in studio photography, 3 in camera and imaging operation, 3 in darkroom techniques, 3 in color photography, 3 in video/television production, 3 in photo project supervision, 3 in personnel supervision, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours for a photography practicum, 3 for field experience in management, and 3 in organizational management (3/94).

Recommendation, PHCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic photography, 3 in advanced photographic techniques, 3 in studio photography, 3 in camera and imaging operation, 3 in darkroom techniques, 3 in color photography, 3 in video/television production, 3 in photo project supervision, 3 in personnel supervision, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours for a photography practicum, 3 for field experience in management, 3 in organizational management, and 3 in management problems (3/94).

NER-PI-002

Precision Instrumentman, Master Chief
PICM

Exhibit Dates: 1/90–12/90. Effective 1/91, PICM was discontinued and its duties were incorporated into Senior Chief Opticalman (NER-OM-003) and Senior Chief Instrumentman (NER-IM-003).

Occupational Field: 4 (Ship Maintenance).

Career Pattern

May progress from either IMCS, Senior Chief Instrumentman (E-8), or OMCS, Senior Chief Opticalman (E-8). *PICM:* Master Chief Precision Instrumentman (E-9).

Description

Able to perform the duties required for IMCS (Senior Chief Instrumentman), OMCS (Senior Chief Instrumentman), or OMCS (Senior Chief Opticalman); develops procedures for conducting safety programs and monitoring compliance; plans, organizes, implements, and controls activities in accordance with policies and directives; forecasts future requirements; establishes goals, objectives, and priorities; reviews personnel, equipment, and material requirements; assists in the management of records; coordinates liaison between repair activities and ship or shipyard; manages repair division; schedules repair work; develops operating budgets and monitors expenditures.

Recommendation

In the vocational certificate category, if progressed from Instrumentman, use the credit recommended for IMCS in exhibit NER-IM-002. In the lower-division baccalaureate/associate degree category, if progressed from Instrumentman, use the credit recommended for IMCS in exhibit NER-IM-002; if progressed from Opticalman, use the credit recommended for OMCS in exhibit NER-OM-002. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/90).

NER-PM-002

Patternmaker
PM3
PM2
PM1
PMC

Exhibit Dates: 1/90–1/96.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *PM3:* Patternmaker, Third Class (E-4). *PM2:* Patternmaker, Second Class (E-5). *PM1:* Patternmaker, First Class (E-6). *PMC:* Chief Patternmaker (E-7). *MLCS:* Senior Chief Molder (E-8). *MLCM:* Master Chief Molder (E-9).

Description

Summary: Makes wooden, plaster, and metal patterns, core boxes, and flasks used by molders in a Navy foundry. *PM3:* Works from shop drawings and sketches to fabricate simple templates; lays out and constructs simple one-piece patterns; applies standard color code finishes; identifies patternmaking woods; identifies ferrous and nonferrous metal by chip and files. *PM2:* Able to perform the duties required for PM3; prepares sketches from mechanical drawings; fabricates layouts from mechanical drawings, freehand sketches, and castings; constructs layout and cuts templates, master patterns, and patterns used for composite casting; constructs molds; designs and constructs flasks for patterns; lays out and constructs patterns and core boxes; computes areas, volumes, weights, and quantities of lumber for patterns; designs and manufactures labor saving devices; completes maintenance reports. *PM1:* Able to perform the duties required for PM2; constructs intricate gypsum cement patterns and core boxes; manufactures patterns using plastic materials; constructs tensile test coupon patterns with gating system and risers attached; designs and uses pattern padding required for control of solidification; prepares maintenance schedules. *PMC:* Able to perform the duties required for PM1; estimates cost for patternmaking jobs; prepares and maintains records and reports required for repair department; solves problems of casting design; applies principles of mold construction and foundry methods for minimizing stress, strains, and hot spots by using chills, risers, and fillets; controls shrinkage by the use of chills, risers, and pods; conducts on-the-job training; supervises and trains personnel in the design, construction, layout, and manufacture of patterns, in identifying metals, and in the use of immersion and optical pyrometers; prepares quarterly maintenance schedules.

Recommendation, PM3

In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 1 in mechanical drafting, 1 in woodworking laboratory, 1 in machine tool operation, and 2 in patternmaking (3/90).

Recommendation, PM2

In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 2 in mechanical drafting, 2 in woodworking laboratory, 2 in machine tool operation, 4 in patternmaking, 1 in record keeping, and 2 in principles of supervision (3/90).

Recommendation, PM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 2 in mechanical drafting, 3 in woodworking laboratory, 3 in machine tool operation, 6 in patternmaking, 2 in record keeping, and 3 in principles of supervision (3/90).

Recommendation, PMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 2 in mechanical drafting, 3 in woodworking laboratory, 3 in machine tool operation, 6 in patternmaking, 2 in record keeping, and 4 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 1 in management problems (3/90).

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NER-PM-003

PATTERNMAKER
PM3
PM2
PM1
PMC

Exhibit Dates: 2/96–10/97. Effective 10/97, the Patternmaker rating was discontinued.

Occupational Field: 4 (Ship Maintenance).

Career Pattern

FN: Fireman (E-3). *PM3:* Patternmaker, Third Class (E-4). *PM2:* Patternmaker, Second Class (E-5). *PM1:* Patternmaker, First Class (E-6). *PMC:* Chief Patternmaker (E-7). *MLCS:* Senior Chief Molder (E-8). *MLCM:* Master Chief Molder (E-9).

Description

Summary: Makes wooden, plaster, and metal patterns, core boxes, and flasks used by molders in a Navy foundry. *PM3:* Works from blueprints, shop drawings, and sketches to fabricate simple templates; lays out and constructs simple one-piece patterns; applies standard color code finishes; identifies patternmaking woods; identifies ferrous and nonferrous metal. *PM2:* Able to perform the duties required for PM3; prepares sketches from blueprints or drawings; fabricates layouts from mechanical drawings, freehand sketches, and castings; constructs layout and cuts templates, master patterns, and patterns used for composite casting; constructs molds; designs and constructs flasks for patterns; lays out and constructs patterns and core boxes; computes areas, volumes, weights, and quantities of wood for patterns; designs and manufactures labor saving devices; completes maintenance reports; practices shop safety. *PM1:* Able to perform the duties required for PM2; constructs intricate gypsum cement patterns and core boxes; manufactures patterns using plastic materials; constructs tensile test, construct patterns with gating system and risers attached; designs and uses pattern padding required for control of solidification; prepares maintenance schedules. *PMC:* Able to perform the duties required for PM1; estimates cost for patternmaking jobs; prepares and maintains records and reports required for repair department; solves problems of casting design; applies principles of mold construction and foundry methods for minimizing stress and hot spots by using chills, risers, and fillets; controls shrinkage by the use of chills, risers, and pods; conducts on-the-job training; supervises and trains personnel in the design, construction, layout, and safe manufacture of patterns, in identifying metals, and in the use of immersion and optical pyrometers; prepares quarterly maintenance schedules.

Recommendation, PM3

In the lower-division baccalaureate/associate degree category, 1 semester hour in blueprint reading, 1 in mechanical drafting, 2 in machine woodworking laboratory, and 2 in patternmaking (2/96).

Recommendation, PM2

In the lower-division baccalaureate/associate degree category, 2 semester hours in blueprint reading, 2 in mechanical drafting, 2 in machine woodworking laboratory, 4 in patternmaking, 1 in record keeping, and 2 in personnel supervision (2/96).

Recommendation, PM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 2 in mechanical drafting, 3 in machine woodworking laboratory, 6 in patternmaking, 2 in record keeping, and 3 in personnel supervision (2/96).

Recommendation, PMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in blueprint reading, 2 in mechanical drafting, 3 in machine woodworking laboratory, 6 in patternmaking, 2 in record keeping, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management (2/96).

NER-PN-002

PERSONNELMAN
PN3
PN2
PN1
PNC
PNCS
PNCM

Exhibit Dates: 1/90–Present.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *PN3:* Personnelman, Third Class (E-4). *PN2:* Personnelman, Second Class (E-5). *PN1:* Personnelman, First Class (E-6). *PNC:* Chief Personnelman (E-7). *PNCS:* Senior Chief Personnelman (E-8). *PNCM:* Master Chief Personnelman (E-9).

Description

Summary: Performs enlisted personnel administration duties. *PN3:* Performs routine office functions; maintains files; performs receptionist duties; prepares and maintains personnel records; assists personnel in completing forms, letters, and requests; operates office equipment; able to type reports and correspondence at 30 words per minute; prepares correspondence. *PN2:* Able to perform the duties required for PN3; requisitions, maintains, issues, and accounts for educational manuals and materials; advises personnel on the availability of training and educational materials, service school eligibility, availability of duty assignments, and emergency relief agencies; performs word processing and basic ADP functions; able to type 35 words per minute. *PN1:* Able to perform the duties required for PN2; uses interpersonal communication skills effectively; prepares statistical summaries and reports; applies methods of work simplification; reviews completed job orders and work requests; drafts instructions and notices; supervises the procurement, custody, and handling of publications; conducts briefings and interviews concerning dependency benefits and preretirement matters; able to type at 40 words per minute. *PNC:* Able to perform the duties required for PN1; supervises and trains personnel in classification procedures; reviews applications for special programs leading to higher education and/or commissioned rank; serves as office manager; interprets and analyzes manpower authorizations; supervises the preparation and transmittal of documents; establishes and administers training programs for personnelmen; briefs and advises personnel; performs task analysis. *PNCS:* Able to perform the duties required for PNC; supervises, monitors, and evaluates local operations; plans staffing surveys and analyzes survey results; organizes and schedules training programs; evaluates effectiveness of programs and initiates improvements. *PNCM:* Able to perform the duties required for PNCS; performs organizational analyses; uses problem solving strategies; develops research reports; plans, organizes, implements, and controls activities in compliance with overall policy and directives; develops operating budgets and monitors expenditures.

Recommendation, PN3

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in office procedures, 2 in filing and records control, and 1 in word processing (3/90).

Recommendation, PN2

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in office procedures, 2 in filing and records control, 2 in word processing, 2 in interpersonal communication, and 1 in automatic data processing (ADP) operations (3/90).

Recommendation, PN1

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in office procedures, 2 in filing and records control, 2 in word processing, 3 in interpersonal communication, 1 in automatic data processing (ADP) operations, 2 in technical writing, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours in job analysis and 3 in human resource management (3/90).

Recommendation, PNC

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in office procedures, 2 in filing and records control, 2 in word processing, 3 in interpersonal communication, 1 in automatic data processing (ADP) operations, 3 in technical writing, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours in job analysis and 3 in human resource management (3/90).

Recommendation, PNCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in office procedures, 2 in filing and records control, 2 in word processing, 3 in interpersonal communication, 1 in automatic data processing (ADP) operations, 3 in technical writing, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours in job analysis, 3 in human resource management, and 2 in training methods (3/90).

Recommendation, PNCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in keyboarding, 2 in office procedures, 2 in filing and records control, 2 in word processing, 3 in interpersonal communication, 1 in automatic data processing (ADP) operations, 3 in technical writing, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours in job analysis, 3 in human resource management, 2 in training methods, 3 in principles of management, and 3 in management problems (3/90).

NER-PR-002

Aircrew Survival Equipmentman
PR3
PR2
PR1
PRC
PRCS
PRCM

Exhibit Dates: 1/90–10/97.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). *PR3:* Aircrew Survival Equipmentman, Third Class (E-4). *PR2:* Aircrew Survival Equipmentman, Second Class (E-5). *PR1:* Aircrew Survival Equipmentman, First Class (E-6). *PRC:* Chief Aircrew Survival Equipmentman (E-7). *PRCS:* Senior Chief Aircrew Survival Equipmentman (E-8). *PRCM:* Master Chief Aircrew Survival Equipmentman (E-9).

Description

Summary: Inspects, maintains, and repairs parachutes, survival equipment, and flight and protective clothing and equipment. *PR3:* Packs and rigs parachutes; packs and equips life rafts; sews, stitches, and tacks material; installs, repairs, and replaces fasteners, grommets, and speedy rivets; performs preflight, postflight, turnaround, and conditional inspections of aircrew survival equipment; maintains components of oxygen masks; operates, lubricates, and adjusts sewing machines; operates carbon dioxide recharge equipment. *PR2:* Able to perform the duties required for PR3; is a first-line supervisor of four to seven persons working in parachute lofts and survival gear work centers; operates oxygen system component test stand and liquid oxygen converter test stand; operates test equipment for cartridge-actuated devices associated with parachute systems; inspects, cleans, tests, fits, adjusts, repairs and/or replaces aircrew protective equipment; inspects, rigs, packs, and repairs aircrew inflatable survival equipment; rigs, inspects, packs, and maintains seat-contained survival kits; tests oxygen breathing regulators and liquid oxygen converters and components. *PR1:* Able to perform the duties required for PR2; constructs, modifies, and repairs aircrew survival and associated equipment; repairs oxygen breathing regulators, emergency oxygen systems, and liquid oxygen converters and components; maintains carbon dioxide recharge equipment; maintains test equipment for cartridge-actuated devices associated with parachute systems; maintains technical publications and directives; supervises inspections; prepares weekly schedules of preventive maintenance; inventories, orders, and turns in equipment, spare parts, and materials; troubleshoots and repairs sewing machine malfunctions. *PRC:* Able to perform the duties required for PR1; monitors compliance with safety program; interprets maintenance directives and instructions; ensures maximum utilization of personnel, equipment, and facilities; estimates material, equipment, and manpower requirements; initiates recommendations concerning work center repair capabilities and facility requirements; prepares quarterly schedules of preventive maintenance; prepares reports concerning material and equipment. *PRCS:* Able to perform the duties required for PRC; recommends changes to ground and flight safety programs; assists in aircraft accident investigations; collects and disseminates technical information concerning assigned equipment; prepares local directives and instructions for attaining objectives and improving operations; prepares correspondence; provides information and advice regarding operations in area of responsibility; implements a program for interviewing, assigning, and evaluating personnel; organizes, schedules, and evaluates training programs; administers long-range maintenance programs. *PRCM:* Able to perform the duties required for PRCS; formulates guidelines for use in safety inspections; plans and estimates work load commitments; monitors implementation of preventive maintenance program; ensures that procedures for requisitioning, receiving, storing, and transferring equipment are followed; prepares studies concerning maintenance and staff problems; plans, organizes, and coordinates functions between work centers and branches in the maintenance department; reviews and forecasts material, equipment, and personnel requirements; establishes objectives and sets priorities in area of responsibility; reviews and evaluates inspection records and quality control reports; develops operating budgets and monitors expenditures.

Recommendation, PR3

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, and 3 in parachute packing (6/87).

Recommendation, PR2

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, and 3 in survival equipment testing and assembly (6/87).

Recommendation, PR1

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision (6/87).

Recommendation, PRC

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision. In the upper-division baccalaureate category, 1 semester hour in shop management (6/87).

Recommendation, PRCS

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision and 3 in safety program supervision. In the upper-division baccalaureate category, 2 semester hours in shop management, 3 in shop maintenance organization and planning, 3 in quality assurance and management control, and 3 for field experience in management (6/87).

Recommendation, PRCM

In the vocational certificate category, 3 in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision and 3 in safety program supervision. In the upper-division baccalaureate category, 3 semester hours in shop maintenance organization and planning, 3 in quality assurance and management control, 6 for field experience in management, and 3 in shop management (6/87).

NER-PR-003

Aircrew Survival Equipmentman
PR3
PR2
PR1
PRC
PRCS
PRCM

Exhibit Dates: 11/97–Present.

Occupational Field: 5 (Aviation Maintenance/ Weapons).

Career Pattern

AN: Airman (E-3). *PR3:* Aircrew Survival Equipmentman, Third Class (E-4). *PR2:* Aircrew Survival Equipmentman, Second Class (E-5). *PR1:* Aircrew Survival Equipmentman, First Class (E-6). *PRC:* Chief Aircrew Survival Equipmentman (E-7). *PRCS:* Senior Chief Aircrew Survival Equipmentman (E-8). *PRCM:* Master Chief Aircrew Survival Equipmentman (E-9).

Description

Summary: Inspects, maintains, and repairs parachutes, survival equipment, and flight and protective clothing and equipment; inspects, detects, and treats aircraft corrosion. *PR3:* Packs and rigs parachutes; packs and equips life rafts; sews-stitches, and tacks material; installs, repairs, and replaces fasteners, grommets, and speedy rivets; performs preflight, postflight, turn around, and conditional inspections of aircrew survival equipment; maintains components of oxygen masks; operates, lubricates, and adjusts sewing machines; operates carbon dioxide recharge equipment. *PR2:* Able to perform the duties required for PR3; supervises four to seven persons working in parachute lofts and survival gear work centers; operates oxygen system component test stand and liquid oxygen converter test stand; operates test equipment for cartridge-actuated devices associated with parachute systems; inspects, cleans, tests, fits, adjusts, repairs and/or replaces aircrew protective equipment; inspects, rigs, packs, and repairs aircrew inflatable survival equipment; rigs, inspects, packs, and maintains seat-contained survival kits; tests oxygen breathing regulators and liquid oxygen converters and components. *PR1:* Able to perform the duties required for PR2; constructs, modifies, and repairs aircrew survival and associated equipment; repairs oxygen breathing regulators, emergency oxygen systems, and liquid oxygen converters and components; maintains carbon dioxide recharge equipment; maintains test equipment for cartridge-actuated devices associated with parachute systems; maintains technical publications and directives; supervises inspections; prepares weekly schedules of preventive maintenance; inventories, orders, and turns in equipment, spare parts, and materials; troubleshoots and repairs sewing machine malfunctions. *PRC:* Able to perform the duties required for PR1; monitors compliance with safety program; interprets maintenance directives and instructions; ensures maximum utilization of personnel, equipment, and facilities; estimates material, equipment, and manpower requirements; initiates recommendations concerning work center repair capabilities and facility requirements; prepares quarterly schedules of preventive maintenance; prepares reports concerning material and equipment. *PRCS:* Able to perform the duties required for PRC; recommends changes to ground and flight safety programs; assists in aircraft accident investigations; collects and disseminates technical information concerning assigned equipment; prepares local directives and instructions for attaining objectives and improving operations; prepares correspondence; provides information and advice regarding operations in area of responsibility; implements a program for interviewing, assigning, and evaluating personnel; organizes, schedules, and evaluates training programs; administers long-range maintenance programs. *PRCM:* Able to perform the duties required for PRCS; formulates guidelines for use in safety inspections; plans and estimates work load commitments; monitors implementation of preventive maintenance program; ensures that procedures for requisitioning, receiving, storing, and transferring equipment are followed; prepares studies concerning maintenance and staff problems; plans, organizes, and coordinates functions between work centers and branches in the maintenance department; reviews and forecasts material, equipment, and personnel requirements; establishes objectives and sets priorities in area of responsibility; reviews and evaluates inspection records and quality control reports; develops operating budgets and monitors expenditures.

Recommendation, PR3

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, and 3 in parachute packing. In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft corrosion control (11/97).

Recommendation, PR2

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, and 3 in survival equipment testing and assembly. In the lower-division baccalaureate/associate degree category, 2 semester hours in aircraft corrosion control and 2 in personnel supervision (11/97).

Recommendation, PR1

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision and 2 in aircraft corrosion control (11/97).

Recommendation, PRC

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision and 2 in aircraft corrosion control. In the upper-division baccalaureate category, 1 semester hour in shop management (11/97).

Recommendation, PRCS

In the vocational certificate category, 3 semester hours in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 2 in aircraft corrosion control, and 3 in safety program supervision. In the upper-division baccalaureate category, 2 semester hours in shop management, 3 in shop maintenance organization and planning, 3 in quality assurance and management control, and 3 for field experience in management (11/97).

Recommendation, PRCM

In the vocational certificate category, 3 in sewing machine operations and service, 3 in fabric layout and pattern design, 3 in parachute packing, 3 in survival equipment inspection and repair, 3 in survival equipment testing and assembly, and 3 in industrial sewing machine repair. In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 2 in aircraft corrosion control, and 3 in safety program supervision. In the upper-division baccalaureate category, 3 semester hours in shop maintenance organization and planning, 3 in quality assurance and management control, 6 for field experience in management, and 3 in shop management (11/97).

NER-QM-002

QUARTERMASTER
QM3
QM2
QM1
QMC
QMCS
QMCM

Exhibit Dates: 1/90–Present.

Occupational Field: 2 (Ship Operations).

Career Pattern

SN: (E-3). *QM3:* Quartermaster, Third Class (E-4). *QM2:* Quartermaster, Second Class (E-5). *QM1:* Quartermaster, First Class (E-6). *QMC:* Chief Quartermaster (E-7). *QMCS:* Senior Chief Quartermaster (E-8). *QMCM:* Master Chief Quartermaster (E-9).

Description

Summary: Stands watches as assistant to officer of the deck and to the navigator; serves as ship's steerman; performs ship control, navigation, and bridge watch duties; serves as petty officer in charge of small craft. *QM3:* Inventories and procures nautical charts and publications; uses and corrects sailing directions, light lists, coastal pilots, and related publications and charts; uses basic course plotting instruments, lead line, depth sounder, and compass; identifies aids to navigation; handles plain language radio communications and visual communication; maintains compass record book and weather observation sheet. *QM2:* Able to perform the duties required for QM3; uses Coast Guard publications concerning nautical rules of the road, maneuvering board, and relative bearings; selects charts for voyage planning; determines danger angles and danger bearings; determines ship's position by celestial observations; recognizes the significance of dew point, relative humidity, temperature, atmospheric pressure, wind force and direction, cloud formation, and sea state in general weather forecasting; supervises bridge personnel; inventories installed equipment and spare parts; orders repair parts and tools. *QM1:* Able to perform the duties required for QM2; adjusts compasses and prepares deviation tables; adjusts and aligns sextants and stadimeters; interprets weather charts; plots probable path and location of storm centers; prepares a great circle track using gnomonic and conformal projection charts; maintains the ship's equipment configuration accounting system; prepares weekly schedules of preventive maintenance and sees that they are implemented; prepares oceanographic reports such as wave observation log, ship's ice log, adjusted track log, and journal or log; supervises and trains personnel in navigation, watchstanding, and use and care of navigational charts, tables, and publications. *QMC:* Able to perform the duties required for QM1; prepares quarterly schedules of preventive maintenance; requisitions equipment; interviews, selects, and evaluates personnel for the navigation department; plans emergency drills for navigation department personnel; conducts briefings for navigation department personnel. *QMCS:* Able to perform the duties required for QMC; prepares local directives and instructions for attaining organizational objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel; organizes and schedules training programs, evaluates their effectiveness, and initiates improvements; monitors expenditures of funds allocated to navigation department; administers long-range maintenance program. *QMCM:* Able to perform the duties required for QMCS; plans, organizes, implements, and controls activities in compliance with policies, procedures, directives, and orders; forecasts future requirements for area of responsibility and plans and initiates action to satisfy the requirements; establishes objectives and sets priorities for area of responsibility; reviews personnel, equipment, and material requirements and makes recommendations; prepares narrative reports; develops operating budgets and monitors expenditures.

Recommendation, QM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship (12/89).

Recommendation, QM2

In the vocational certificate category, 3 semester hours in practical mathematics and 1 in marine instrumentation. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship,1 in applied meteorology, 3 in celestial navigation, 3 in coastwise navigation and piloting, and 3 in record keeping (12/89).

Recommendation, QM1

In the vocational certificate category, 3 semester hours in practical mathematics and 1 in marine instrumentation. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship,1 in applied meteorology, 3 in coastwise navigation and piloting, 3 in record keeping, 3 in celestial navigation, 2 in marine meteorology, and 3 in personnel supervision (12/89).

Recommendation, QMC

In the vocational certificate category, 3 semester hours in practical mathematics and 1 in marine instrumentation. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship,1 in applied meteorology, 3 in coastwise navigation and piloting, 3 in record keeping, 3 in celestial navigation, 2 in marine meteorology, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 3 semester hours in advanced navigation (12/89).

Recommendation, QMCS

In the vocational certificate category, 3 semester hours in practical mathematics and 1 in marine instrumentation. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship,1 in applied meteorology, 3 in coastwise navigation and piloting, 3 in record keeping, 3 in celestial navigation, 2 in marine meteorology, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 3 semester hours in advanced navigation, 3 for field experience in management, and 3 in management problems (12/89).

Recommendation, QMCM

In the vocational certificate category, 3 semester hours in practical mathematics and 1 in marine instrumentation. In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship,1 in applied meteorology, 3 in coastwise navigation and piloting, 3 in record keeping, 3 in celestial navigation, 2 in marine meteorology, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 3 semester hours in advanced navigation, 6 for field experience in management, and 3 in management problems (12/89).

NER-RM-002

RADIOMAN
RM3
RM2
RM1
RMC
RMCS
RMCM

Exhibit Dates: 1/90–1/98.

Occupational Field: 21 (Communications).

Career Pattern

SN: Seaman (E-3). *RM3:* Radioman, Third Class (E-4). *RM2:* Radioman, Second Class (E-5). *RM1:* Radioman, First Class (E-6). *RMC:* Chief Radioman (E-7). *RMCS:* Senior Chief Radioman (E-8). *RMCM:* Master Chief Radioman (E-9).

Description

Summary: Transmits, receives, and processes all forms of telecommunications through various media; operates, monitors, and controls telecommunication transmissions, reception, terminal, and processing equipment. *RM3:* Complies with all requirements for secure communications; performs operational tests and required adjustments; performs maintenance on antennas; employs touch typing at or above 35 wpm; follows directives regarding modes and frequencies; recognizes and reports interference and jamming; maintains records and directives; utilizes equipment operating manuals. *RM2:* Able to perform the duties required for RM3; performs duties of traffic clerk and watch supervisor; sets up and utilizes multichannel, diversity equipment; monitors traffic flow and, if necessary, takes corrective action; loads prepared computer programs; operates general purpose test equipment; requisitions supplies; maintains maintenance records. *RM1:* Able to perform the duties required for RM2; instructs personnel in military and technical procedures; trains personnel in quality control of telecommunications; researches applicable technical reports; prepares efficiency reports; recommends changes in operational procedures; prepares maintenance schedules and reviews results. *RMC:* Able to perform the duties required for RM1; acts as custodian of secure material; prepares telecommunication system requirements; monitors performance and frequency utilization; determines causes of interference to communications; inspects and evaluates newly installed or modified equipment; serves as supervisor at sea or ashore; maintains necessary records; prepares emergency action plans; supervises training program; reviews efficiency reports on subordinates. *RMCS:* Able to perform the duties required for RMC; evaluates operation specifications and security requirements; administer long-range maintenance program; interviews, evaluates, and assigns personnel; evaluates efficiency of telecommunication center; generates directives, instructions, and general correspondence; organizes, schedules, and evaluates training programs; reviews efficiency reports on subordinates. *RMCM:* Able to perform the duties required for RMCS; establishes goals and priorities; plans, organizes, and controls activities of communications center; reviews policy directives and prepares staff studies.

Recommendation, RM3

In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems (12/89).

Recommendation, RM2

In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems and 2 in record keeping (12/89).

Recommendation, RM1

In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems, 2 in record keeping, and 3 in personnel supervision (12/89).

Recommendation, RMC

In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration (12/89).

Recommendation, RMCS

In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, RMCM

In the lower-division baccalaureate/associate degree category, 2 semester hours in electronic communications systems, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-RM-003

RADIOMAN
RM3
RM2
RM1
RMC
RMCS
RMCM

Exhibit Dates: 2/98–Present.

Occupational Field: 21 (Communications).

Career Pattern

SN: Seaman (E-3). *RM3:* Radioman, Third Class (E-4). *RM2:* Radioman, Second Class (E-5). *RM1:* Radioman, First Class (E-6). *RMC:* Chief Radioman (E-7). *RMCS:* Senior Chief Radioman (E-8). *RMCM:* Master Chief Radioman (E-9). NOTE: The Data Processing (DM) rating merged with the Radioman rating.

Description

Summary: Transmits, receives, and processes all forms of telecommunications through various media; operates, monitors, and controls telecommunication transmissions, networks, terminals, and processing equipment. *RM3:* Complies with requirements for secure communications; performs operational tests and required adjustments; performs maintenance on antennas; follows directives regarding modes and frequencies; recognizes and reports interference and jamming; maintains records and directives; uses equipment operating manuals. *RM2:* Able to perform the duties required for RM3; performs duties of traffic clerk and watch supervisor; installs local area networks; uses computer systems software including Novell, DOS, or UNIX; sets up and uses multichannel, diversity equipment; monitors traffic flow and, if necessary, takes corrective action; installs and operates computer software; operates general purpose test equipment; requisitions supplies; maintains maintenance records. *RM1:* Able to perform the duties required for RM2; maintains local area networks; instructs personnel in military and technical procedures; trains personnel in quality control of telecommunications; researches applicable technical reports; prepares efficiency reports; recommends changes in operational procedures; prepares maintenance schedules and reviews results. *RMC:* Able to perform the duties required for RM1; acts as custodian of secure material; prepares telecommunication system requirements; monitors performance and frequency utilization;

determines causes of interference to communications; inspects and evaluates newly installed or modified equipment; serves as supervisor at sea or ashore; maintains necessary records; prepares emergency action plans; supervises training program; reviews efficiency reports of subordinates. *RMCS:* Able to perform the duties required for RMC; evaluates operation specifications and security requirements; administer long-range maintenance program; interviews, evaluates, and assigns personnel; evaluates efficiency of telecommunications center; generates directives, instructions, and general correspondence; organizes, schedules, and evaluates training programs. *RMCM:* Able to perform the duties required for RMCS; establishes goals and priorities; plans, organizes, and controls activities of telecommunications center; reviews policy directives and prepares staff studies.

Recommendation, RM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications systems, 3 in computer applications, and 2 in telecommunications (2/98).

Recommendation, RM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications systems, 3 in computer applications, 3 in telecommunications, 2 in network installation and maintenance, and 2 in record keeping (2/98).

Recommendation, RM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications systems, 3 in network installation and maintenance, 2 in record keeping, 3 in computer applications, 3 in personnel supervision, and 3 in telecommunications (2/98).

Recommendation, RMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications systems, 3 in personnel supervision, 3 in computer applications, 3 in telecommunications, 3 in network installation and maintenance, 2 in record keeping, and 3 in personnel administration (2/98).

Recommendation, RMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications systems, 3 in computer applications, 3 in telecommunications, 3 in network installation and maintenance, 3 in personnel supervision, 2 in record keeping, and 3 in personnel administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (2/98).

Recommendation, RMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic communications systems, 3 in computer applications, 3 in telecommunications, 3 in network installation and maintenance, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (2/98).

NER-RP-002

Religious Program Specialist
RP3
RP2
RP1
RPC
RPCS
RPCM

Exhibit Dates: 1/90–11/97.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *RP3:* Religious Program Specialist, Third Class (E-4). *RP2:* Religious Program Specialist, Second Class (E-5). *RP1:* Religious Program Specialist, First Class (E-6). *RPC:* Chief Religious Program Specialist (E-7). *RPCS:* Senior Chief Religious Program Specialist (E-8). *RPCM:* Master Chief Religious Program Specialist (E-9).

Description

Summary: Assists in the management of religious programs and facilities. *RP3:* Performs administrative, clerical, and secretarial duties; inventories ecclesiastical equipment and supplies; assists in preparation of devotional and religious educational materials; types at 30 words per minute; transcribes chaplain interview records; operates office equipment; files records and correspondence; maintains reference library; prepares religious activities reports; performs receptionist duties; types directives, correspondence, and records; maintains financial and property control records; serves as a sacristan; sets up religious facilities, equipment, and liturgical appointments. *RP2:* Able to perform the duties required for RP3; organizes and monitors maintenance of files; disposes of obsolete files and records; maintains a reports control system; maintains tickler and cross reference files; coordinates the maintenance of religious facilities; collects data required by chaplains; prepares and maintains a directory of religious program resources; instructs volunteers in methods of religious education and the use of related material; conducts programs to assist personnel in the use of religious facilities, equipment, and the conduct of liturgical and ceremonial acts. *RP1:* Able to perform the duties required for RP2; organizes and supervises the operation of a chaplain's office; compiles and analyzes statistical data; processes appointment and certification of lay leaders and lay eucharistic ministers; prepares correspondence and messages and drafts directives; prepares the departmental budget; determines requirements for equipment, supplies, and educational material; reviews completed job orders and work requests; maintains locater files for lay leaders; designs and lays out publicity material; determines the need for equipment and supplies. *RPC:* Able to perform the duties required for RP1; reviews reports, records, and correspondence requiring signature; provides administrative support of major support activities; prepares command briefings on religious programs; audits and serves as custodian of chapel funds; instructs subordinate personnel, lay leaders, and lay eucharistic ministers in religious education matters; analyzes requirements for religious facilities. *RPCS:* Able to perform the duties required for RPC; establishes a program for interviewing, evaluating, and assigning personnel; provides information and advice on utilization, capabilities, reliability, and operations; prepares directives; organizes and schedules training programs and evaluates their effectiveness; coordinates the public worship education materials program. *RPCM:* Able to perform the duties required for RPCS; manages religious activities in accordance with policy directives; forecasts requirements and establishes goals, objectives, and priorities; determines mobilization requirements; evaluates the programs of subordinate commands; reviews plans for religious facility construction; develops operating budget and monitors expenditures.

Recommendation, RP3

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, and 1 in library science (3/90).

Recommendation, RP2

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, and 3 in library science (3/90).

Recommendation, RP1

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 3 in principles of supervision, and 3 in budgeting procedures (3/90).

Recommendation, RPC

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 3 in principles of supervision, 3 in budgeting procedures, and 3 in business communication. In the upper-division baccalaureate category, 3 semester hours in human resource management (3/90).

Recommendation, RPCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 3 in principles of supervision, 3 in budgeting procedures, and 3 in business communication. In the upper-division baccalaureate category, 3 semester hours in human resource management and 3 in principles of management (3/90).

Recommendation, RPCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 3 in principles of supervision, 3 in budgeting procedures, and 3 in business communication. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in principles of management, and 3 in financial controls (3/90).

NER-RP-003

Religious Program Specialist
RP3
RP2
RP1
RPC
RPCS
RPCM

Exhibit Dates: 12/97–Present.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *RP3:* Religious Program Specialist, Third Class (E-4). *RP2:* Religious Program Specialist, Second Class (E-5). *RP1:* Religious Program Specialist, First Class (E-6). *RPC:* Chief Religious Program Specialist (E-7). *RPCS:* Senior Chief Religious Program Specialist (E-8). *RPCM:* Master Chief Religious Program Specialist (E-9).

Description

Summary: Assists in the management of religious programs and manages library facilities. *RP3:* Performs administrative, clerical, and secretarial duties; operates a personal computer and software that is appropriate to the assignment, for example: Word Perfect, Excel, and Access; performs library activities, including special acquisitions cataloguing and processing of general print and noprint media; inventories ecclesiastical equipment and supplies; assists in preparation of devotional and religious educational materials; transcribes chaplain interview records; operates office equipment; files records and correspondence; prepares religious activities reports; performs receptionist duties; types directives, correspondence, and records; maintains financial and property control records; serves as a sacristan; sets up religious facilities, equipment, and liturgical appointments. *RP2:* Able to perform the duties required for RP3; supervises resources; provides input for budget development; organizes and monitors maintenance of files; disposes of obsolete files and records; maintains a report control system; maintains tickler and cross reference files; coordinates maintenance of religious facilities; collects data required by chaplains; prepares and maintains a directory of religious program resources; instructs volunteers in methods of religious education and the use of related material; conducts programs to assist personnel in the use of religious facilities and equipment and the conduct of liturgical and ceremonial acts. *RP1:* Able to perform the duties required for RP2; organizes and supervises the operation of a chaplain's office; compiles and analyzes statistical data; processes appointment and certification of lay leaders and lay eucharistic ministers; prepares correspondence and messages and drafts directives; prepares the departmental budget; determines requirements for equipment, supplies, and educational material; reviews completed job orders and work requests; maintains locater files for lay leaders; designs and lays out publicity material; determines the need for equipment and supplies. *RPC:* Able to perform the duties required for RP1; maintains and analyzes budget; reviews reports, records, and correspondence requiring signature; provides administrative support for major activities; prepares command briefings on religious programs; audits and serves as custodian of chapel nonappropriated funds; instructs subordinates, lay leaders, and lay eucharistic ministers in religious education matters; analyzes requirements for religious facilities. *RPCS:* Able to perform the duties required for RPC; establishes a program for interviewing, evaluating, and assigning personnel; provides information and advice on utilization, capabilities, reliability, and operations; prepares directives; organizes and schedules training programs and evaluates their effectiveness; coordinates the public worship education materials program. *RPCM:* Able to perform the duties required for RPCS; manages religious activities in accordance with policy directives; forecasts requirements and establishes goals, objectives, and priorities; determines mobilization requirements; evaluates the programs of subordinate commands; reviews plans for religious facility construction; develops operating budget and monitors expenditures.

Recommendation, RP3

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, and 1 in library science (11/97).

Recommendation, RP2

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 1 in principles of supervision, and 3 in library science (11/97).

Recommendation, RP1

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 2 in principles of supervision, and 3 in budgeting procedures (11/97).

Recommendation, RPC

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 2 in principles of supervision, 3 in budgeting procedures, and 3 in business communication. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in principles of management, and 3 in budget management (11/97).

Recommendation, RPCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 2 in principles of supervision, 3 in budgeting procedures, and 3 in business communication. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in budget management, and 3 in principles of management (11/97).

Recommendation, RPCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in automated data processing, 3 in office procedures, 3 in filing and records control, 3 in instructional media, 3 in interpersonal communication, 3 in library science, 2 in principles of supervision, 3 in budgeting procedures, and 3 in business communication. In the upper-division baccalaureate category, 3 semester hours in human resource management, 3 in principles of management, and 3 in budget management (11/97).

NER-SH-002

Ship's Serviceman
SH3
SH2
SH1
SHC
SHCS
SHCM

Exhibit Dates: 1/90–Present.

Occupational Field: 16 (Logistics).

Career Pattern

SN: Seaman (E-3). *SH3:* Ship's Serviceman, Third Class. *SH2:* Ship's Serviceman, Second Class (E-5). *SH1:* Ship's Serviceman, First Class (E-6). *SHC:* Chief Ship's Serviceman (E-7). *SHCS:* Senior Chief Ship's Serviceman (E-8). *SHCM:* Master Chief Ship's Serviceman (E-9).

Description

Summary: Able to operate barber shop, tailor shop, ship's store, laundry, dry cleaning plant, retail store, soda fountain, and commissary store; able to operate and maintain vending machines and cash registers; performs clerical and stock control functions. NOTE: Ship's Servicemen, Third Class (SH3) specialize as tailors, barbers, laundrymen/dry cleaners, or store clerks. *SH3:* If serves as tailor, operates and adjusts sewing machines; sews and performs alterations and minor repair work on garments; presses garments on mechanical steam and electric presses; installs zippers, buttons, and makes buttonholes; attaches service ribbons and badges with even stitches; sets up accounts for retail clothing, receipts, and expenditures; inventories stock; receives tags and logs items for processing. If serves as barber, cuts hair; schedules appointments; maintains acceptable sanitary and health standards in barber shop; has knowledge of basic first aid; maintains shop equipment; knows medical terminology for hair and scalp diseases and sources of infection. If serves as laundryman, operates and adjusts all laundry and dry cleaning equipment; has knowledge of safety precautions, operating temperatures, and pressures of laundry equipment; removes stains; has knowledge of washing colored clothing and starching garments using detergents, soaps, and bleaches; uses flatwork ironer and air-operated presser; has knowledge of water pollution control; issues and records laundry markings for laundry items; schedules laundry and dry cleaning operations; processes claims for loss of or damage to garments; accounts for receipts and expenditures. If serves as store clerk, performs shipboard and shoreside supply functions; conducts inventories, orders stock, and computes standard markups; uses all memoranda, forms, and vouchers used by the Navy supply corps. *SH2:* Able to perform the duties required for SH3; able to supervise the laundry, barber shop, or tailor shop; plans and schedules work loads; prepares and assembles financial returns; inventories stock; assists superiors on smaller ships without a supply corps officer. *SH1:* Able to perform the duties required for SH2; prepares planned maintenance schedules; prepares reports; able to function as supply officer on small ships. *SHC:* Able to perform the duties required for SH1; supervises and assigns duties; orders materials; prepares work requests; audits maintenance programs; serves as a counselor on reenlistment and advancement opportunities; plans physical layouts for sales and service activities; investigates and resolves customer complaints. *SHCS:* Able to perform the duties required for SHC; supervises entire supply department; serves as liaison with other departments and supply corps; organizes and schedules training programs, evaluates effectiveness, and initiates improvements; writes correspondence, directives and instructions. *SHCM:* Able to perform the duties required for SHCS; serves as the administrator of an entire supply department; supervises up to 70 persons; conducts task analysis; approves procedural changes and modifications; reviews personnel evaluations and performance standards; develops operating budgets and monitors expenditures.

Recommendation, SH3

In the vocational certificate category, if served as laundry/dry cleaning specialist, 2 semester hours in treatment of fabrics (stain removing, spotting, solutions), 3 in laundry equipment operational techniques and repair, 3 in laundry management, and 3 in dry cleaning and pressing. In the lower-division baccalaureate/associate degree category, if served as tailor, 2 semester hours in record keeping, 3 in beginning tailoring, 3 in applied tailoring techniques (alterations, repairs, buttonholing, braiding), 3 in small business management for tailors, and 3 in home economics in tailoring techniques. If served as barber, 2 semester hours in record keeping, 2 in small business management for barbers, 3 in barber science (equipment and nomenclature), 3 in barber science II (sanitation, dermatology, hygiene, and 7 in applied barber shop techniques (haircuts, trims). If served as laundry/dry cleaning specialist, 2 semester hours in record keeping and 1 in environmental control (water). If served as clerk, 2 semester hours in record keeping and 3 in inventory control (10/87).

Recommendation, SH2

In the lower-division baccalaureate/associate degree category, follow the recommendation in SH3 and add 1 semester hour in personnel supervision (10/87).

Recommendation, SH1

In the lower-division baccalaureate/associate degree category, follow the recommendation in SH3 and add 3 semester hours in personnel supervision (10/87).

Recommendation, SHC

In the lower-division baccalaureate/associate degree category, follow the recommendation in SH3 and add 1 semester hour in record keeping, 3 in retail sales management, 3 in personnel supervision, and 3 for field experience in management (10/87).

Recommendation, SHCS

In the lower-division baccalaureate/associate degree category, follow the recommendation in SH3 and add 1 semester hour in record keeping, 3 in retail sales management, 3 in personnel supervision, 3 in management electives, and 3 for field experience in management. In the upper-division baccalaureate category, 3 semester hours for a practicum in management (10/87).

Recommendation, SHCM

In the lower-division baccalaureate/associate degree category, follow the recommendation in SH3 and add 1 semester hour in record keeping, 6 in retail sales management, 3 in personnel supervision, 3 in management electives, and 3 for field experience in management. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 for a practicum in management, and 3 in personnel management (10/87).

NER-SK-002

STOREKEEPER
SK3
SK2
SK1
SKC
SKCS
SKCM

Exhibit Dates: 1/90–Present.

Occupational Field: 16 (Logistics).

Career Pattern

SN: Seaman (E-3). *SK3:* Storekeeper, Third Class (E-4). *SK2:* Storekeeper, Second Class (E-5). *SK1:* Storekeeper, First Class (E-6). *SKC:* Chief Storekeeper (E-7). *SKCS:* Senior Chief Storekeeper (E-8). *SKCM:* Master Chief Storekeeper (E-9).

Description

Summary: Orders, receives, inspects, stores, preserves, packages, ships, and issues materials and cargo; prepares and maintains forms, records, correspondence, reports, and files. *SK3:* Knows the basic organization and functions of supply departments; is familiar with the purpose and use of major components of automated data processing (ADP) equipment and knows common terms used in ADP; operates office machines; types (at 20 words per minute), routes and files forms and messages; maintains files, requisition log, and budget records; prepares supply related documents; identifies, receives, stows, and issues materials and stock items; prepares items for shipment; prepares shipment documents; inventories stocked material and installed equipment; operates material-handling equipment. *SK2:* Able to perform the duties required for SK3; establishes and maintains files; knows types, uses, and purpose of appropriations and funds; reconciles financial listings; prepares budget reports; requisitions repair parts, supplies, forms, and publications; supervises working parties handling stores; controls inventory using ADP procedures; maintains and interprets reports and records; prepares open purchases documents; applies regulations to maintain the security of materials or documents. *SK1:* Able to perform the duties required for SK2; applies automated supply procedures; prepares correspondence and messages; instructs others in the use of publications and directives; supervises the maintenance of publications; reviews requisitions for nonstandard materials; establishes and maintains a technical library; implements and supervises target budgeting procedures; processes bills for payment; identifies sources and uses of funds; effects supply issuance; carries out Navy supply procedures; supervises regular and special inventories; writes correspondence. *SKC:* Able to perform the duties required for SK1; monitors outgoing correspondence, shipboard ADP, and management of fleet-controlled material; supervises the receipt of material and administrative storekeeper functions; organizes and supervises internal procedures for inventory management; prepares replenishment data for equipage, repair parts, and consumables and estimates requirements which would exist for voyages of various lengths and under various climatic conditions; interviews, supervises, and evaluates personnel. *SKCS:* Able to perform the duties required for SKC; analyzes supply reports and evaluates problem areas; supervises on-the-job training programs; utilizes ADP in supply operations; monitors and directs supply functions, including those related to security, financial control, and logistics; prepares local directives and instructions. *SKCM:* Able to perform the duties required for SKCS; plans, organizes, implements, and controls activities in compliance with policy statements, operation orders, and directives; forecasts future requirements; plans and initiates actions to satisfy requirements; establishes goals and priorities; reviews and evaluates personnel, equipment, and material requirements; develops operating budgets and monitors expenditures; plans and develops operational requirements for service markets, supply operations assistance program, sea markets, and storage warehouses.

Recommendation, SK3

In the lower-division baccalaureate/associate degree category, 3 semester hours in office machines, 3 in clerical procedures, and 2 in inventory control (3/90).

Recommendation, SK2

In the lower-division baccalaureate/associate degree category, 3 semester hours in office machines, 3 in clerical procedures, 2 in inventory control, 2 in supply management, and 3 in records and information management (3/90).

Recommendation, SK1

In the lower-division baccalaureate/associate degree category, 3 semester hours in office machines, 3 in clerical procedures, 3 in inventory control, 3 in supply management, 3 in records and information management, and 3 in business communication (3/90).

Recommendation, SKC

In the lower-division baccalaureate/associate degree category, 3 semester hours in office machines, 3 in clerical procedures, 3 in inventory control, 3 in supply management, 3 in records and information management, 3 in business communication, 3 in office procedures, and 3 in principles of supervision (3/90).

Recommendation, SKCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in office machines, 3 in clerical procedures, 3 in inventory control, 3 in supply management, 3 in records and information management, 3 in business communication, 3 in office procedures, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in logistics management (3/90).

Recommendation, SKCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in office machines, 3 in clerical procedures, 3 in inventory control, 3 in supply management, 3 in records and information management, 3 in business communication, 3 in office procedures, and 3 in principles of supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in logistics management, and 3 in principles of management (3/90).

NER-SM-002

SIGNALMAN

SM3
SM2
SM1
SMC
SMCS
SMCM

Exhibit Dates: 1/90–Present.

Occupational Field: 1 (General Seamanship).

Career Pattern

SN: Seaman (E-3). *SM3:* Signalman, Third Class (E-4). *SM2:* Signalman, Second Class (E-5). *SM1:* Signalman, First Class (E-6). *SMC:* Chief Signalman (E-7). *SMCS:* Senior Chief Signalman (E-8). *SMCM:* Master Chief Signalman (E-9).

Description

Summary: Sends and receives messages by flashing light, semaphore, and flag hoist; stands watch on the signal bridge; performs lookout duties; encodes and decodes messages; maintains visual signal equipment; recognizes visual aids to navigation such as beacons and buoys; takes bearings; serves as navigator's assistant. *SM3:* Performs basic seamanship duties; stands watches as a signal operator underway and in port; inventories equipment; performs routine maintenance on optical equipment; uses and recognizes flag, light, international distress, emergency, and storm warning signals; transmits and receives code groups by flashing lights at 8 wpm and semaphore at 10 wpm; selects and displays flags and pennants; receives, sends, and handles routine messages according to precedence; performs duties of a signalman as member of a boat crew; operates infrared and flashing light equipment; performs routine maintenance of visual signaling equipment. *SM2:* Able to perform the duties required for SM3; maintains visual signal log and visual traffic files; locates ships in local formation using formation diagram; corrects and maintains signal publications; completes planned maintenance reports; orders repair parts and special tools required for installed equipment maintenance; constructs and uses all visual call signs, international call signs, and task organization calls for ship and commands; encodes and decodes naval or international signals contained in effective visual communication publications; carries out disposal and destruction of classified communication materials; ensures that correct methods of transmission or transportation of classified information and material are followed; transmits and receives code groups by flashing light of 8 wpm, plain language message by flashing light at 10 wpm, and by semaphore at 15 wpm. *SM1:* Able to perform the duties required for SM2; prepares requests for requisition of equipment; prepares visual equipment communication standing orders for signalmen; instructs signal personnel in identification of ships and aircraft, visual communication procedures, naval communications rules, and recognition procedures and codes; prepares weekly schedules of preventive maintenance; maintains inventory files for equipment and consumable goods; administers security classification policies; authenticates authority of the releaser of visual messages; transmits and receives code group by flashing lights of 10 wpm, plain language messages by flashing lights at 12 wpm, and semaphore at 20 wpm. *SMC:* Able to perform the duties required for SM1; prepares quarterly schedules of preventive maintenance; posts changes to ship equipment configuration accounting system; administers command security education programs; performs duties of tactical communications watch officer; supervises visual communications activities; supervises signal bridge personnel. *SMCS:* Able to perform the duties required for SMC; interprets organization and functions of the communications section; provides information and advice on utilization, capability of operations in own area of responsibility; prepares correspondence; prepares local directives and instruction concerning organization objectives and improving operations; evaluates and assigns personnel to ensure maximum utilization; observes and evaluates visual exercises and drills; organizes and implements communications section of operation orders and plans; organizes, schedules, and evaluates visual communications training programs; administers long-range planned maintenance programs in accordance with Navy maintenance and material management system; administers command security program. *SMCM:* Able to perform the duties required for SMCS; plans, organizes, and implements activities in compliance with policy statements, operation orders, and directives; forecasts future requirements and plans and initiates action to satisfy requirements in area of responsibility; establishes goals, objectives, and priorities in area of responsibility; reviews personnel, equipment, and material requirements; develops operating budgets and monitors expenditures.

Recommendation, SM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship (12/89).

Recommendation, SM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 2 in record keeping, and 2 in personnel supervision (12/89).

Recommendation, SM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 2 in record keeping and 2 in personnel supervision (12/89).

Recommendation, SMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration (12/89).

Recommendation, SMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, SMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in seamanship, 2 in record keeping, 3 in personnel supervision, and 3 in personnel administration. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-SN-002

SEAMAN

SN

Exhibit Dates: 1/90–Present.

Career Pattern

Seaman (SN) is a general rate (Naval apprenticeship) for persons at paygrades E-1 (recruit), E-2 (Seaman apprentice), and E-3 (Seaman). At paygrade E-4 (petty officer, third class), the person may enter any one of the following ratings: Boatswain's Mate (BM), Cryptologic Technician (CT), Data Processing Technician (DP), Data Systems Technician (DS), Disbursing Clerk (DK), Electronics Technician (ET), Electronics Warfare Technician (EW), Fire Control Technician (FTB or FTG), Fire Controlman (FC), Gunner's Mate (GMG or GMM), Gunner's Mate Technician (GMT), Illustrator Draftsman (DM), Instrumentman (IM), Intelligence Specialist (IS), Journalist (JO), Lithographer (LI), Mess Management Specialist (MS), Mineman (MN), Missile Technician (MT), Musician (MU), Ocean Systems Technician (OT), Operations Specialist (OS), Opticalman (OM), Personnelman (PN), Postal Clerk (PC), Quartermaster (QM), Radioman (RM), Religious Program Specialist (RP), Ship's Serviceman (SH), Signalman (SM), Sonar Technician (STG or STS), Storekeeper (SK), Torpedoman's Mate (TM), or Yeoman (YN).

Description

Performs all basic seamanship functions aboard ship that involve line or wire and rigging used to secure the ship to a pier, mooring, or anchor; is able to identify functions of navigation and shipboard equipment; lowers, raises, and launches lifesaving equipment; handles small boats; navigates by using several different types of compasses; keeps records by degrees or points; knows navigational aids, nautical rules of the road, and the buoys of inland waters of the US; knows the nomenclature of decks, superstructures, and parts of the hull; knows the purpose and limitations of first aid and the first aid treatments for electrical shock, simple and compound fractures, heat exhaustion, heat stroke, and burns; must be qualified as a swimmer, fourth class; knows how to determine the classes of fire hoses and how to use carbon dioxide, dry chemical, and water portable fire extinguishers; knows the function of the typical fire main system, fixed carbon dioxide system, water washdown system, and magazine sprinkling system; knows the difference between flooding and progressive flooding and the danger involved.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in nautical science (seamanship) and 3 in nautical science (navigation); if qualified as a swimmer, first class, 1 semester hour in swimming and additional credit in swimming on the basis of institutional evaluation. Credit for Seaman (SN) should be granted only after paygrade E-3 has been achieved (3/90).

NER-STG-002

SONAR TECHNICIAN, SURFACE
STG3
STG2
STG1
STGC
STGCS
STGCM

Exhibit Dates: 1/90–1/98.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). STG3: Sonar Technician, Surface, Third Class (E-4). STG2: Sonar Technician, Surface, Second Class (E-5). STG1: Sonar Technician, Surface, First Class (E-6). STGC: Chief Sonar Technician, Surface (E-7). STGCS: Senior Chief Sonar Technician, Surface (E-8). STGCM: Master Chief Sonar Technician, Surface (E-9).

Description

Summary: Operates, troubleshoots, repairs, and performs maintenance on shipboard sonar, oceanographic, and underwater antisubmarine weapons control systems. *STG3:* Performs operational tests and makes external adjustments on equipment; uses schematic and wiring/circuitry diagrams; performs preventive and corrective maintenance on sonar equipment; operates sonar equipment to detect submarine and other underwater objects; operates a bathythermograph to obtain water temperature versus depth; prepares and interprets sonar messages; completes maintenance data forms. *STG2:* Able to perform the duties required for STG3; tests and repairs or replaces electrical/electronic components and parts; localizes equipment malfunctions to systems, subsystems, circuits, or parts; installs minor modifications to electronic sonar equipment; operates analog/digital sonar computer; inventories tools, portable test equipment, and installed equipment; completes maintenance reports. *STG1:* Able to perform the duties required for STG2; supervises maintenance and repair of sonar equipment; repairs and calibrates electronic test equipment; trains and supervises personnel in the operation of equipment; prepares weekly maintenance schedules. *STGC:* Able to perform the duties required for STG1; supervises training of personnel in operation, maintenance, and repair of equipment; administers a long-range maintenance program; prepares quarterly maintenance schedules. *STGCS:* Able to perform the duties required for STGC; organizes and schedules training programs; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STGCM:* Able to perform the duties required for STGCS; serves as technical advisor for operations, maintenance, and training; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, STG3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 1 in digital electronics, and 1 in solid state electronics (12/89).

Recommendation, STG2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 2 in digital electronics, and 2 in solid state electronics (12/89).

Recommendation, STG1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 2 in digital electronics, 2 in solid state electronics, and 3 in personnel supervision (12/89).

Recommendation, STGC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 2 in digital electronics, 2 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management (12/89).

Recommendation, STGCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 2 in digital electronics, 2 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, STGCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 2 in digital electronics, 2 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-STG-003

SONAR TECHNICIAN, SURFACE
STG3
STG2
STG1
STGC
STGCS
STGCM

Exhibit Dates: 2/98–Present.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). STG3: Sonar Technician, Surface, Third Class (E-4). STG2: Sonar Technician, Surface, Second Class (E-5). STG1: Sonar Technician, Surface, First Class (E-6). STGC: Chief Sonar Technician, Surface (E-7). STGCS: Senior Chief Sonar Technician, Surface (E-8). STGCM: Master Chief Sonar Technician, Surface (E-9). NOTE: Oceanographic Technician merged with Sonar Technician.

Description

Summary: Operates, troubleshoots, repairs, and performs maintenance on shipboard sonar and underwater antisubmarine weapons control systems. Knows Oceanographic aspects such as wave propagation in a fluid medium with variables of temperature and pressure. *STG3:* Performs operational tests and makes external adjustments on equipment; uses schematic and wiring/circuitry diagrams; performs preventive and corrective maintenance on sonar equipment; operates sonar equipment to detect submarine and other underwater objects; operates a bathythermograph to obtain water temperature versus depth; prepares and interprets sonar messages; completes maintenance data forms. *STG2:* Able to perform the duties required for STG3; tests and repairs or replaces electrical/electronic components and parts; localizes equipment malfunctions to systems, subsystems, circuits, or parts; installs minor modifications to electronic sonar equipment; operates analog/digital sonar computer; inventories tools, portable test equipment, and installed equipment; completes maintenance reports; trains and supervises personnel in the operation of equipment. *STG1:* Able to perform the duties required for STG2; supervises maintenance and repair of sonar equipment; repairs and calibrates electronic test equipment; prepares weekly maintenance schedules. *STGC:* Able to perform the duties required for STG1; supervises training of personnel in operation, maintenance, and repair of equipment; administers a long-range maintenance program; prepares quarterly maintenance schedules. *STGCS:* Able to perform the duties required for STGC; organizes and schedules training programs; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STGCM:* Able to perform the duties required for STGCS; serves as technical advisor for operations, maintenance, and training; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operatins budgets and monitors expenditures.

Recommendation, STG3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory and 2 in basic oceanographic concepts (2/98).

Recommendation, STG2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in basic oceanographic concepts, and 2 in computer use and application (2/98).

Recommendation, STG1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in basic oceanographic concepts, 2 in computer use and application, and 3 in personnel supervision (2/98).

Recommendation, STGC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in basic oceanographic concepts, 2 in computer use and applications, 3 in personnel supervision, and 3 in maintenance management (2/98).

Recommendation, STGCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in basic oceanographic concepts, 2 in computer use and applications, 3 in personnel supervision and 3 maintenance management. In the upper-division baccalaureate category, 3 for field experience in management and 3 in management problems(2/98).

Recommendation, STGCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 2 in basic oceanographic concepts, 2 in computer use and applications, and 3 in personnel superivsion, and 3 in maintnnan. In the upper-division baccalaureate category, 6 fior field experience in management and 3 in management problems (2/98).

NER-STS-002

Sonar Technician, Submarine

STS3
STS2
STS1
STSC
STSCS
STSCM

Exhibit Dates: 1/90–2/96.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). STS3: Sonar Technician, Submarine, Third Class (E-4). STS2: Sonar Technician, Submarine, Second Class (E-5). STS1: Sonar Technician, Submarine, First Class (E-6). STSC: Chief Sonar Technician, Submarine (E-7). STSCS: Senior Chief Sonar Technician, Submarine (E-8). STSCM: Master Chief Sonar Technician, Submarine (E-9).

Description

Summary: Operates, troubleshoots, repairs, and performs maintenance on submarine sonar oceanographic, and auxiliary sonar equipment; coordinates use of submarine sonar and underwater weapons control systems. *STS3:* Performs operational test and makes external adjustments on equipment; uses schematic and wiring/circuitry diagrams; troubleshoots and repairs; operates a bathythermograph to obtain water temperature versus depth; prepares and interprets sonar messages; completes maintenance data forms. *STS2:* Able to perform the duties required for STS3; performs preventive and corrective maintenance on sonar equipment; tests and repairs or replaces electrical/ electronic components and parts; localizes equipment malfunctions to systems, subsystems, circuits, or parts; installs minor modifications to electronic sonar equipment; operates analog/digital sonar computer; inventories tools, portable test equipment, and installed equipment; completes maintenance reports. *STS1:* Able to perform the duties required for STS2; supervises maintenance and repair of sonar equipment; repairs and calibrates electronic test equipment; trains and supervises personnel in the operation of equipment; prepares weekly maintenance schedules. *STSC:* Able to perform the duties required for STS1; supervises training of personnel in operation, maintenance, and repair of equipment; administers a long-range maintenance program; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STSCS:* Able to perform the duties required for STSC; organizes and schedules training programs; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STSCM:* Serves as technical advisor for operations, maintenance, and training; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, STS3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 2 in digital electronics, and 2 in solid state electronics (12/89).

Recommendation, STS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital electronics, and 3 in solid state electronics (12/89).

Recommendation, STS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital electronics, 3 in solid state electronics, and 3 in personnel supervision (12/89).

Recommendation, STSC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital electronics, 3 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management (12/89).

Recommendation, STSCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital electronics, 3 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (12/89).

Recommendation, STSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital electronics, 3 in solid state electronics, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (12/89).

NER-STS-003

Sonar Technician, Submarine

STS3
STS2
STS1
STSC
STSCS
STSCM

Exhibit Dates: 3/96–1/98.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). STS3: Sonar Technician, Submarine, Third Class (E-4). STS2: Sonar Technician, Submarine, Second Class (E-5). STS1: Sonar Technician, Submarine, First Class (E-6). STSC: Chief Sonar Technician, Submarine (E-7). STSCS: Senior Chief Sonar Technician, Submarine (E-8). STSCM: Master Chief Sonar Technician, Submarine (E-9).

Description

Summary: Operates, troubleshoots, repairs, and performs maintenance on submarine sonar oceanographic, and auxiliary sonar equipment; coordinates use of submarine sonar and underwater weapons control systems. *STS3:* Performs operational test and makes external adjustments on equipment; uses schematic and wiring/circuitry diagrams; troubleshoots and repairs; operates a bathythermograph to obtain water temperature versus depth; prepares and interprets sonar messages; completes maintenance data forms. *STS2:* Able to perform the duties required for STS3; performs preventive and corrective maintenance on sonar equipment; tests and repairs or replaces electrical/ electronic components and parts; localizes equipment malfunctions to systems, subsystems, circuits, or parts; installs minor modifications to electronic sonar equipment; operates analog/digital sonar computer; inventories tools, portable test equipment, and installed equipment; completes maintenance reports. *STS1:* Able to perform the duties required for STS2; supervises maintenance and repair of sonar equipment; repairs and calibrates electronic test equipment; trains and supervises personnel in the operation of equipment; prepares weekly maintenance schedules. *STSC:* Able to perform the duties required for STS1; supervises training of personnel in operation, maintenance, and repair of equipment; administers a long-range maintenance program; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STSCS:* Able to perform the duties required for STSC; organizes and schedules training programs; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STSCM:* Serves as technical advisor for operations, maintenance, and training; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, STS3

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, and 3 in digital systems troubleshooting and maintenance (3/96).

Recommendation, STS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, and 3 in digital systems troubleshooting and maintenance (3/96).

Recommendation, STS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, and 3 in personnel supervision (3/96).

Recommendation, STSC

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 3 in personnel supervision, and 3 in maintenance management (3/96).

Recommendation, STSCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (3/96).

Recommendation, STSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 3 in personnel supervision, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (3/96).

NER-STS-004

SONAR TECHNICIAN, SUBMARINE
STS3
STS2
STS1
STSC
STSCS
STSCM

Exhibit Dates: 2/98–Present.

Occupational Field: 10 (Sensor Operations).

Career Pattern

SN: Seaman (E-3). STS3: Sonar Technician, Submarine, Third Class (E-4). STS2: Sonar Technician, Submarine, Second Class (E-5). STS1: Sonar Technician, Submarine, First Class (E-6). STSC: Chief Sonar Technician, Submarine (E-7). STSCS: Senior Chief Sonar Technician, Submarine (E-8). STSCM: Master Chief Sonar Technician, Submarine (E-9). NOTE: The Ocean Systems Technician (OT) rating merged with Sonar Technician rating.

Description

Summary: Operates, troubleshoots, repairs, and performs maintenance on submarine sonar oceanographic and auxiliary sonar equipment; coordinates use of submarine sonar and underwater weapons control system; knows oceanographic aspects such as wave propagation in a fluid medium, with variables of temperature and pressure. *STS3:* Performs operational test and makes external adjustments on equipment; uses schematic and wiring/circuitry diagrams; troubleshoots and repairs; operates a bathythermograph to obtain water temperature versus depth; prepares and interprets sonar messages; completes maintenance data forms. *STS2:* Able to perform the duties required for STS3; performs preventive and corrective maintenance on sonar equipment; tests and repairs or replaces electrical/electronic components and parts; localizes equipment malfunctions to systems, subsystems, circuits, or parts; installs minor modifications to electronic sonar equipment; operates analog/digital sonar computer; inventories tools, portable test equipment, and installed equipment; completes maintenance reports; trains and supervises subordinates. *STS1:* Able to perform the duties required for STS2; supervises maintenance and repair of sonar equipment; repairs and calibrates electronic test equipment; trains and supervises personnel in the operation of equipment; prepares weekly maintenance schedules. *STSC:* Able to perform the duties required for STS1; supervises training of personnel in operation, maintenance, and repair of equipment; administers a long-range maintenance program; prepares directives and instructions for attaining organizational objectives; establishes and implements a program for interviewing, evaluating, and assigning personnel to ensure maximum utilization; prepares correspondence. *STSCS:* Able to perform the duties required for STSC; organizes and schedules training programs. *STSCM:* Serves as technical advisor for operations, maintenance, and training; reviews personnel, equipment, and material requirements and forecasts future requirements; plans, organizes, implements, and controls activities; develops operating budgets and monitors expenditures.

Recommendation, STS3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 2 in solid state electronics, 2 in basic oceanographic concepts, and 1 in digital electronics (2/98).

Recommendation, STS2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 2 in digital electronics, 2 in solid state electronics, and 2 in basic oceanographic concepts (2/98).

Recommendation, STS1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 2 in digital electronics, 2 in solid state electronics, 2 in basic oceanographic concepts, and 2 in computer use and applications, and 3 in personnel supervision (2/98).

Recommendation, STSC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 2 in digital electronics, 2 in solid state electronics, 2 in basic oceanographic concepts, 2 in computer use and application, and 3 in personnel supervision (2/98).

Recommendation, STSCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic systems troubleshooting and maintenance, 3 in basic electronics laboratory, 3 in digital systems troubleshooting and maintenance, 3 in personnel supervision, 3 in maintenance management, 2 in digital electronics, 2 in solid state electronics, 2 in basic oceanographic concepts, and 2 in computer use applications. In the upper-division baccalaureate category, 3 semester hours for field experience in management and 3 in management problems (2/98).

Recommendation, STSCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electronics laboratory and 3 in digital systems troubleshooting and maintenance, 2 in digital electronics, 2 in solid state electronics, 2 in basic oceanographic concepts, 2 in computer use and applications, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in management and 3 in management problems (2/98).

NER-SW-001

STEELWORKER
SW3
SW2
SW1
SWC
SWCS

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *SW3:* Steelworker, Third Class (E-4). *SW2:* Steelworker, Second Class (E-5). *SW1:* Steelworker, First Class (E-6). *SWC:* Chief Steelworker (E-7). *SWCS:* Senior Chief Steelworker (E-8). *CUCM:* Master Chief Constructionman (E-9).

Description

Summary: Fabricates, assembles, erects, positions, and joins structural members and fabricated sections. *SW3:* Reads shop drawings and sketches; uses simple hoisting devices; cuts, forms, places, and ties reinforcing steel; works with erection crew as a connector or tag man; performs gas cutting, gas welding, and electric arc welding in all positions; identifies types and uses of electrodes, gas rods, and fluxes for welding, soldering, and brazing; identifies types of welded joints; identifies compressed gas cylinders; splices line and wire rope; computes safe working load of lines, wire rope, and block and tackle arrangements; erects common types of metal and swinging scaffolds; identifies types and shapes of structural and reinforcing steel; identifies types of pre-engineered buildings and structures; computes areas of polygons, circles, and cylinders; computes volume of prisms, pyramids, cones, spheres, and cylinders; fabricates elementary designs and shapes in sheet metal by using soldering, brazing, and riveting. *SW2:* Able to perform the duties required for SW3; draws simple shop drawings and sketches; prepares requisitions; welds ferrous/nonferrous metals in all positions using gas metal arc and gas tungsten arc welding procedures; applies methods of controlling metal expansion during welding operations; applies field straightening techniques to damaged structural shapes; applies principles and methods of cutting, chamfering, and scarfing metal using carbon arc chamfer-type rod and air arc processes; performs gas welding and electric arc welding to build up and wearface metal parts; determines mechanical advantage of block and tackle arrangements; determines types and use of drive pins, studs, and power charges for powder-assisted or powder-actuated tools; performs layout and fabrication of simple steel structures for teams and crews; rigs wire charges for powder-assisted or powder-actuated tools; performs layout and fabrication of simple steel structures for teams and crews; rigs wire rope using poured sockets, clips, and related attachments; performs operator maintenance on powder-actuated (low and high velocity) stud guns and on diesel or gasoline driven air compressors. *SW1:* Able to perform the duties required for SW2; prepares as-built drawings; prepares work progress reports; provides material usage data; conducts training for teams and crews; designs and erects simple hoisting devices, such as A-frames, gin poles, tripods, and derricks; directs the movement of cranes and other hoisting devices in moving and positioning objects; directs crews involved in cutting, bending, and placing reinforcing steel; directs teams and crews in erecting rigid frame and other pre-engineered buildings, structures, and airfield matting; directs teams and crews engaged in metal work and fabrication; applies the principles and assembly methods of the various pontoon systems; assigns daily work to teams and crews; prepares equipment, manpower, and material estimates from drawings and specifications; uses principles and techniques of critical path method scheduling; performs duties of shop planner or maintenance scheduler; performs construction and maintenance inspections; performs nondestructive metal tests. *SWC:* Able to perform the duties required for SW1; drafts letters and instructions; prepares reports; administers accident prevention program; makes personnel assignments; provides technical advice on plans and specifications and on construction and maintenance techniques; implements maintenance and cost control program; prepares and uses network analysis; prepares and maintains project progress charts; organizes and controls the site development of materials and equipment. *SWCS:* Able to perform the duties required for SWC; prepares correspondence and local directives and instructions for attaining organizational objectives and improving operations; provides information and advice on utilization, capabilities, reliability, and operations in own area of responsibility; implements a program for assigning and evaluating personnel; coordinates equipment assignment among various projects; administers construction force tool inventory and inspection program; prepares and maintains visual status boards; is capable of directing the operation and maintenance of all utilities in the public works department; directs transportation and equipment services; establishes a maintenance and cost control program; coordinates and evaluates labor reporting, material and equipment usage, and maintenance data and coordinates the preparation and submission of related reports; organizes, schedules, and evaluates training programs.

Recommendation, SW3

In the vocational certificate category, 9 semester hours in welding, 1 in rigging, and 1 in steel layout and fabrication. In the lower-division baccalaureate/associate degree category, 3 semester hours in welding and additional credit in welding on the basis of institutional evaluation (1/77).

Recommendation, SW2

In the vocational certificate category, 15 semester hours in welding, 2 in rigging, and 2 in steel layout and fabrication. In the lower-division baccalaureate/associate degree category, 5 semester hours in welding, 1 in steel layout and fabrication, and additional credit in welding on the basis of institutional evaluation (1/77).

Recommendation, SW1

In the vocational certificate category, 15 semester hours in welding, 6 in advanced welding, 3 in rigging, 3 in technical mathematics, and 3 in steel layout and fabrication. In the lower-division baccalaureate/associate degree category, 7 semester hours in welding, 2 in steel layout and fabrication, 2 in personnel supervision, and additional credit in welding on the basis of institutional evaluation (1/77).

Recommendation, SWC

In the vocational certificate category, 15 semester hours in welding, 6 in advanced welding, 3 in rigging, 3 in technical mathematics, and 3 in steel layout and fabrication. In the lower-division baccalaureate/associate degree category, 7 semester hours in welding, 3 in personnel supervision, 3 in industrial technology, 2 in steel layout and fabrication, 1 in technical writing, and additional credit in welding on the basis of institutional evaluation (1/77).

Recommendation, SWCS

In the vocational certificate category, 15 semester hours in welding, 6 in advanced welding, 3 in rigging, 3 in technical mathematics, and 3 in steel layout and fabrication. In the lower-division baccalaureate/associate degree category, 7 semester hours in welding, 3 in personnel supervision, 3 in records administration, 3 in technical writing, 3 in industrial technology, 2 in steel layout and fabrication, and additional credit in welding on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours for a practicum in management, 3 in construction management, and 3 in human relations (1/77).

NER-SW-002

STEELWORKER
SW3
SW2
SW1
SWC
SWCS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *SW3:* Steelworker, Third Class (E-4). *SW2:* Steelworker, Second Class (E-5). *SW1:* Steelworker, First Class (E-6). *SWC:* Chief Steelworker (E-7). *SWCS:* Senior Chief Steelworker (E-8). *CUCM:* Master Chief Constructionman (E-9).

Description

Summary: Fabricates, assembles, erects, positions, and joins structural members and fabricated sections. *SW3:* Reads shop drawings and sketches; uses simple hoisting devices; cuts, forms, places, and ties reinforcing steel; works with erection crew as a connector or tagman; performs gas cutting, gas welding, and electric arc welding in all positions; identifies types and uses of electrodes, gas rods, and fluxes for welding, soldering, and brazing; identifies compressed gas cylinders; splices line and wire rope; computes safe working load of lines, wire rope, and block and tackle arrangements; erects common types of metal and swinging scaffolds; identifies types and shapes of structural and reinforcing steel; identifies types of pre-engineered buildings and structures; computes areas of polygons, circles, and cylinders; computes volume of prisms, pyramids, cones, spheres, and cylinders; fabricates elementary designs and shapes in sheet metal by using soldering, brazing, and riveting. *SW2:* Able to perform the duties required for SW3; draws simple shop drawings and sketches; prepares requisitions; welds ferrous/nonferrous metals in all positions, using gas metal arc and gas tungsten arc welding procedures; applies methods of controlling metal expansion during welding operations; applies field straightening techniques to damaged structural shapes; applies principles and methods of cutting, chamfering, and scarfing metal, using carbon arc chamfer-type rod and air arc processes; performs gas welding and electric arc welding to build up and wearface metal parts; determines mechanical advantage of block and tackle arrangements; determines types and use of drive pins, studs, and powder charges for powder-assisted or powder-actuated tools; performs layout and fabrication of simple steel structures for teams and crews; rigs wire rope using poured sockets, clips, and related attachments; performs operator maintenance on power-actuated (low and high velocity) stud guns and on diesel or gasoline driven air compressors. *SW1:* Able to perform the duties required for SW2; prepares as-built drawings; prepares work progress reports; provides material usage data; conducts training for teams and crews; designs and erects simple hoisting devices, such as A-frames, gin poles, tripods, and derricks; directs the movement of cranes and other hoisting devices in moving and positioning objects; directs crews involved in cutting, bending, and placing reinforcing steel; directs teams and crews in erecting rigid frame and other pre-engineered buildings, structures, and airfield matting; directs teams and crews engaged in metal work and fabrication; applies the principles and assembly methods of the various pontoon systems; assigns daily work to teams and crews; prepares equipment, manpower, and material estimates from drawings and specifications; uses principles and techniques of critical path method scheduling; performs duties of shop planner or maintenance scheduler; performs construction and maintenance inspections; performs nondestructive metal tests. *SWC:* Able to perform the duties required for SW1; drafts letters and instructions; prepares reports; administers accident prevention program; makes personnel assignments; provides technical advice on plans and specifications and on construction and maintenance techniques; implements maintenance and cost control program; prepares and uses network analysis; prepares and maintains project progress charts; organizes and controls the site development of materials and equipment. *SWCS:* Able to perform the duties required for SWC; prepares correspondence, local directives, and instructions for attaining organizational objectives and improving operations; provides information and advice on utilization, capabilities, reliability, and operation in own area of responsibility; implements a program for assigning and evaluating personnel; coordinates equipment assignment among various projects; administers construction force tool inventory and inspection program; prepares and maintains visual status boards; is capable of directing the operation and maintenance of all utilities in the public works department; directs transportation and equipment services; establishes a maintenance and cost control program; coordinates and evaluates labor reporting, material and equipment usage, and maintenance data and coordinates the preparation and submission of related reports; organizes, schedules, and evaluates training programs.

Recommendation, SW3

In the lower-division baccalaureate/associate degree category, 1 semester hour in rigging, 1 in steel layout and fabrication, 3 in welding, and additional credit in welding on the basis of institutional evaluation (6/91).

Recommendation, SW2

In the lower-division baccalaureate/associate degree category, 2 semester hours in rigging, 1 in steel layout and fabrication, 5 in welding, 1 in personnel supervision, and additional credit in welding on the basis of institutional evaluation (6/91).

Recommendation, SW1

In the lower-division baccalaureate/associate degree category, 3 semester hours in rigging, 2 in steel layout and fabrication, 7 in welding, 3 in personnel supervision, 2 in maintenance management, 1 in records and information management, and additional credit in welding on the basis of institutional evaluation (6/91).

Recommendation, SWC

In the lower-division baccalaureate/associate degree category, 3 semester hours in rigging, 2 in steel layout and fabrication, 7 in welding, 3 in personnel supervision, 3 in maintenance management, 2 in records and information management, 3 in industrial technology, 1 in technical writing, and additional credit in welding on the basis of institutional evaluation (6/91).

Recommendation, SWCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in rigging, 2 in steel layout and fabrication, 7 in welding, 3 in personnel supervision, 3 in maintenance management, 2 in records and information management, 3 in industrial technology, 3 in technical writing, and additional credit in welding on the basis of institutional evaluation. In the upper-division baccalaureate category, 3 semester hours in organizational management, 3 in construction management, and 3 for field experience in management (6/91).

NER-TD-001

TRADEVMAN
TD3
TD2
TD1
TDC
TDCS
TDCM

Exhibit Dates: 1/90–1/92. The Tradevman rating has been discontinued.

Occupational Field: 11 (Weapons System Support).

Career Pattern

AN: Airman (E-3). *TD3:* Tradevman, Third Class (E-4). *TD2:* Tradevman, Second Class (E-5). *TD1:* Tradevman, First Class (E-6). *TDC:* Chief Tradevman (E-7). *TDCS:* Senior Chief Tradevman (E-8). *TDCM:* Master Chief Tradevman (E-9).

Description

Summary: Operates, maintains, and installs training equipment; supervises maintenance; uses equipment in training programs; plans and develops training programs and training aids. *TD3:* Performs maintenance on electronic, hydraulic, and electrical training equipment; prepares computers for operation; records information on training devices; performs electromechanical maintenance; operates and repairs audiovisual training equipment and other training devices. *TD2:* Able to perform the duties required for TD3; analyzes and repairs electronic and hydraulic systems of training devices; operates and maintains sensor equipment; repairs analog computers; prepares computer program tapes and interprets printouts; organizes and maintains technical files; troubleshoots and maintains servo systems used in training devices; locates and corrects defects in mechanical computing elements. *TD1:* Able to perform the duties required for TD2; analyzes and corrects computer system malfunctions; supervises tests and measurements on training devices; prepares maintenance troubleshooting programs for ADP/EDP operations; verifies computer tapes; prepares drawings from mechanical, electrical, and electronic schematics; inspects maintenance work; prepares maintenance schedules; orders technical publications or manuals; orders parts, tools, equipment, and material; maintains and repairs air conditioning systems. *TDC:* Able to perform the duties required for TD1; assists in selection and development of training aids; coordinates scheduling of training devices; supervises training programs; assigns job priorities; analyzes discrepancy trends; directs and monitors installation, operation, and maintenance of assigned equipment; schedules preventive maintenance; develops and directs closed-circuit television programs. *TDCS:* Able to perform the duties required for TDC; provides utilization information; prepares correspondence and local directives; establishes a program for interviewing, evaluating, and assigning personnel; organizes, schedules, and evaluates training programs; evaluates requirements and administers a long-range planned maintenance program. *TDCM:* Able to perform the duties required for TDCS; plans, organizes, and controls activities; forecasts future requirements and plans for personnel, equipment, and materials; establishes goals and priorities; develops operating budgets and monitors expenditures.

Recommendation, TD3

In the vocational certificate category, 2 semester hours in blueprint reading and schematics and 3 in technical mathematics. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 3 in basic electronics, 3 in basic mathematics, and 6 in applied physics (2/77).

Recommendation, TD2

In the vocational certificate category, 2 semester hours in blueprint reading and schematics and 3 in technical mathematics. In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity, 3 in basic electronics, 3 in basic mathematics, and 6 in applied physics (2/77).

Recommendation, TD1

In the vocational certificate category, 2 semester hours in blueprint reading and schematics, 3 in technical mathematics, and additional credit in air conditioning and refrigeration on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 2 semester hours in record keeping, 2 in personnel supervision, 3 in basic electricity, 3 in basic electronics, 3 in basic mathematics, and 6 in applied physics. In the upper-division baccalaureate category, 3 semester hours in audiovisual education (2/77).

Recommendation, TDC

In the vocational certificate category, 2 semester hours in blueprint reading and schematics, 3 in technical mathematics, and additional credit in air conditioning and refrigeration on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 2 semester hours in record keeping, 3 in personnel supervision, 3 in basic electricity, 3 in basic electronics, 3 in basic mathematics, and 6 in applied physics. In the upper-division baccalaureate category, 3 semester hours in audiovisual education and 3 in instructional techniques and materials (2/77).

Recommendation, TDCS

In the vocational certificate category, 2 semester hours in blueprint reading and schematics, 3 in technical mathematics, and additional credit in air conditioning and refrigeration on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 2 semester hours in record keeping, 3 in personnel supervision, 3 for management electives, 3 in basic electricity, 3 in basic electronics, 3 in basic mathematics, and 6 in applied physics. In the upper-division baccalaureate category, 3 semester hours in audiovisual education, 3 in instructional techniques and materials, and 3 for field experience in management (2/77).

Recommendation, TDCM

In the vocational certificate category, 2 semester hours in blueprint reading and schematics, 3 in technical mathematics, and additional credit in air conditioning and refrigeration on the basis of institutional evaluation. In the lower-division baccalaureate/associate degree category, 2 semester hours in record keeping, 3 in personnel supervision, 3 for management electives, 3 in basic electricity, 3 in basic electronics, 3 in basic mathematics, and 6 in applied physics. In the upper-division baccalaureate category, 3 semester hours in audiovisual education, 3 in instructional techniques and materials, 3 in management problems, 3 for field experience in management, and additional credit in human relations, personnel management, and for a practicum in management on the basis of institutional evaluation (2/77).

NER-TM-001

TORPEDOMAN'S MATE (TECHNICIAN)
TM3
TM2
TM1
TMC
TMCS
TMCM

Exhibit Dates: 1/90–12/96. Effective 12/96, the Torpedoman's Mate rating merged with the Machinist's Mate rating.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *TM3:* Torpedoman's Mate, Third Class (E-4). *TM2:* Torpedoman's

Mate, Second Class (E-5). *TM1:* Torpedoman's Mate, First Class (E-6). *TMC:* Chief Torpedoman's Mate (E-7). *TMCS:* Senior Chief Torpedoman's Mate (E-8). *TMCM:* Master Chief Torpedoman's Mate (E-9).

Description

Summary: NOTE: Torpedoman's Mates may serve as either Technicians or Operators. Technicians are identified by a four-digit NEC code that indicates the weapons systems specialty. Operators are identified by an NEC code of "0000." (See Appendix A for information about NECs.) Refer to exhibit NER-TM-002 for Torpedoman's Mate (Operator). Assembles, repairs, and performs maintenance on underwater electronics torpedoes that are launched from surface ships and submarines; troubleshoots, tests, and replaces defective elements and components in the torpedo electronic systems; uses instrumentation and test equipment. *TM3:* (Technician) Handles, transfers, loads, and offloads torpedoes; operates oscilloscopes, frequency counters, and signal generators; uses multimeter; solders electrical leads and terminals; tests and replaces electronic components; uses technical maintenance publications, schematics, and drawings; maintains torpedo records; uses and cares for hand tools. *TM2:* Able to perform the duties required for TM3; (Technician) performs electronic maintenance; disassembles, cleans, adjusts, reassembles, and tests propulsion and control mechanisms of torpedoes; effects all electronic and electrical circuit tests and makes required adjustments; completes deficiency reports on torpedoes and associated equipment. *TM1:* Able to perform the duties required for TM2; (Technician) tests internal circuits of major units; uses working drawing in making modification to torpedo; maintains a technical library; trains subordinates to perform maintenance on weapons; prepares preventive maintenance schedule. NOTE: If NEC was TM-0747, Advanced Undersea Mk 46 Test Equipment Weaponsman, or TM-0749, Advanced Undersea Mk 48 Test Equipment Weaponsman, also performs maintenance on test equipment (a sophisticated computer system with a number of interfaces to the torpedoes and instrumentation) used by Torpedoman's Mates Technicians; has a thorough knowledge of interfacing, of the interfaced equipment, and of digital and computer electronics. *TMC:* Able to perform the duties required for TM1; (Technician) supervises the upkeep and assembly of torpedoes; administers periodic inspection to ensure quality control. *TMCS:* Able to perform the duties required for TMC; (Technician): prepares local directives and correspondence; organizes and schedules training programs; administers long-range planned maintenance programs; controls expenditure of material and funds used in procurement. *TMCM:* Able to perform the duties required for TMCS; (Technician) plans, organizes, implements, and controls activities in accordance with policies and directives; establishes goals and objectives in area of responsibility; develops operating budgets and monitors expenditures.

Recommendation, TM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics and 3 in computer operations (10/87).

Recommendation, TM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics and 3 in computer operations (10/87).

Recommendation, TM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics, 3 in computer operations, 2 in personnel supervision, 2 in maintenance management, and 3 in human relations; if NEC was TM-0747, Advanced Undersea Mk 46 Test Equipment Weaponsman, or TM-0749, Advanced Undersea Mk 48 Test Equipment Weaponsman, additional credit as follows: 2 semester hours in applied mathematics, 4 in digital electronics, 4 in computer organization, 3 in electromechanical systems, and 8 in systems maintenance (10/87).

Recommendation, TMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics, 3 in computer operations, 3 in personnel supervision, 3 in maintenance management, and 3 in human relations; if NEC was TM-0747, Advanced Undersea Mk 46 Test Equipment Weaponsman, or TN-0749, Advanced, Undersea Mk 48 Test Equipment Weaponsman, additional credit as follows: 2 semester hours in applied mathematics, 4 in digital electronics, 4 in computer organization, 3 in electromechanical systems, and 8 in systems maintenance (10/87).

Recommendation, TMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics, 3 in computer operations, 3 in personnel supervision, 3 in maintenance management, and 3 in human relations; if NEC was TM-0747, Advanced Undersea Mk 46 Test Equipment Weaponsman, or TN-0749, Advanced, Undersea Mk 48 Test Equipment Weaponsman, additional credit as follows: 2 semester hours in applied mathematics, 4 in digital electronics, 4 in computer organization, 3 in electromechanical systems, and 8 in systems maintenance. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/87).

Recommendation, TMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic electricity/electronics, 3 in computer operations, 3 in personnel supervision, 3 in maintenance management, and 3 in human relations; if NEC was TM-0747, Advanced Undersea Mk 46 Test Equipment Weaponsman, or TN-0749, Advanced, Undersea Mk 48 Test Equipment Weaponsman, additional credit as follows: 2 semester hours in applied mathematics, 4 in digital electronics, 4 in computer organization, 3 in electromechanical systems, and 8 in systems maintenance. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/87).

NER-TM-002

TORPEDOMAN'S MATE (OPERATOR)
TM3
TM2
TM1
TMC
TMCS
TMCM

Exhibit Dates: 1/90–12/96. Effective 12/96, the Torpedoman's Mate rating merged with the Machinist's Mate rating.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *TM3:* Torpedoman's Mate, Third Class (E-4). *TM2:* Torpedoman's Mate, Second Class (E-5). *TM1:* Torpedoman's Mate, First Class (E-6). *TMC:* Chief Torpedoman's Mate (E-7). *TMCS:* Senior Chief Torpedoman's Mate (E-8). *TMCM:* Master Chief Torpedoman's Mate (E-9).

Description

Summary: NOTE: Torpedoman's Mates may serve as either technicians or operators. Technicians are identified by a four-digit NEC code that indicates the weapon systems specialty. Operators are identified by the NEC code of "0000." (See Appendix A for information about NECs.) Refer to exhibit NER-TM-001 for Torpedoman's Mate (Technician). Assembles, operates, repairs, and performs electrical, mechanical, and hydraulic maintenance on underwater electronic torpedoes that are launched from surface ships and submarines; uses instrumentation and test equipment. *TM3:* (Operator) Handles, transfers, loads, and offloads torpedoes; uses multimeter; solders electrical leads and terminals; tests and replaces electronic components; uses technical maintenance publications, schematics, and drawings; maintains torpedo records; uses and cares for hand tools. *TM2:* Able to perform the duties required for TM3; (Operator) performs electrical, mechanical, and hydraulic maintenance; disassembles, cleans, adjusts, and tests propulsion and control mechanisms of torpedoes and launching systems; completes deficiency reports on torpedoes and associated equipment. *TM1:* Able to perform the duties required for TM2; (Operator) uses working drawings in making modification to torpedo systems; maintains a technical library; trains subordinates to perform maintenance on weapon systems; prepares preventive maintenance schedule. *TMC:* Able to perform the duties required for TM1; (Operator) supervises the upkeep and assembly of torpedo maintenance systems; administers periodic inspection to ensure quality control. *TMCS:* Able to perform the duties required for TMC; (Operator) prepares local directives and correspondence; organizes and schedules training programs; administers long-range planned maintenance programs; controls expenditures of materials and funds used in procurement. *TMCM:* Able to perform the duties required for TMCS; (Operator) plans, organizes, implements, and controls activities in accordance with policies and directives; establishes goals and objectives in area of responsibility; develops operating budgets and monitors expenditures.

Recommendation, TM3

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic mechanical systems and 3 in hydraulic/pneumatic systems (10/87).

Recommendation, TM2

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic mechanical systems and 3 in hydraulic/pneumatic systems (10/87).

Recommendation, TM1

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic mechanical systems, 3 in hydraulic/pneumatic systems, 2 in personnel supervision, 2 in maintenance management, 3 in human relations, and 3 in system maintenance (10/87).

Recommendation, TMC

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic mechanical systems, 3 in hydraulic/pneumatic systems, 3 in personnel supervision, 3 in maintenance management, 3 in human relations, and 3 in system maintenance (10/87).

Recommendation, TMCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic mechanical systems, 3 in hydraulic/pneumatic systems, 3 in personnel supervision, 3 in maintenance management, 3 in human relations, and 3 in system maintenance. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/87).

Recommendation, TMCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in basic mechanical systems, 3 in hydraulic/pneumatic systems, 3 in personnel supervision, 3 in maintenance management, 3 in human relations, and 3 in system maintenance. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/87).

NER-UC-001

Utilitiesman, Master Chief
UCCM

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

May progress to UCCM from UTCS, Senior Chief Utilitiesman (E-8) or CECS, Senior Chief Construction Electrician (E-8). *UCCM:* Master Chief Utilitiesman (E-9).

Description

Able to perform the duties required for UTCS (Senior Chief Utilitiesman) or CECS (Senior Chief Construction Electrician); plans, organizes, implements, and controls work activities in compliance with policy statements and directives; establishes goals and sets priorities; reviews personnel, equipment, and material requirements; develops procedures for work improvement and simplification through organizational analysis; serves as a construction inspector; manages a contract inspection branch; implements energy conservation and pollution control programs; assists in the management and operation of a public works department; develops operating budgets and monitors expenditures; forecasts future personnel, equipment, and material requirements and takes action necessary to satisfy them; is responsible for the administration of a department or company.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in construction contracts and agreements, 3 in government budgeting, and 3 in office administration; add the credit for either UTCS in exhibit NER-UT-002 or CEC in exhibit NER-CE-002, as appropriate. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in organizational management, 3 in management problems, and 3 in operations management; add the credit for either UTCS in exhibit NER-UT-002 or CMCS in exhibit NER-CE-002, as appropriate (6/91).

NER-UT-001

Utilitiesman
UT3
UT2
UT1
UTC
UTCS
UTCM

Exhibit Dates: 1/90–12/90.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *UT3:* Utilitiesman, Third Class (E-4). *UT2:* Utilitiesman, Second Class (E-5). *UT1:* Utilitiesman, First Class (E-6). *UTC:* Chief Utilitiesman (E-7). *UTCS:* Senior Chief Utilitiesman (E-8). *UTCM:* Master Chief Utilitiesman (E-9).

Description

Summary: Plans, supervises, and performs tasks involved in the installation, maintenance, and repair of plumbing, heating, steam, compressed-air, fuel storage, and distribution systems, water treatment and distribution systems, air conditioning and refrigeration equipment, and sewage collection and disposal facilities. *UT3:* Installs immersion can heaters and space heaters, fuel lines, and piping and pressure vessel insulation materials; performs prestart checks, and maintains and operates assigned vehicles; maintains boilers, water plants, air conditioning and refrigeration equipment, and pumps and air compressors; performs minor repairs on immersion can heaters and space heaters; solders/brazes soft and hard drawn copper tubing and fittings; measures, cuts, and threads galvanized steel pipe, cast iron soil pipe, black iron gas pipe, cast iron water pipe, clay and concrete pipe, cement-asbestos pipe, and plastic pipe; identifies color coding used on piping systems and compressed gas cylinders; cleans watersides and firesides of boilers; handles chemicals used in treating water and sewage. *UT2:* Able to perform the duties required for UT3; reads and works from drawings and specifications; prepares simple shop drawings and sketches; prepares time cards and material requisitions; installs water systems, packaged refrigeration and air conditioning systems, and pressure, check, and shut-off valves; installs laundry equipment, heating systems, galley equipment, plumbing fixtures, water heaters, and sewage systems; performs water treatment and purification tests; maintains and repairs laundry equipment; tests, adjusts, and recalibrates gauges; repairs valves. *UT1:* Able to perform the duties required for UT2; prepares work progress and material usage reports; conducts personnel readiness interviews; implements training for team/crew members; constructs septic tanks, cesspools, and leaching fields; installs fire protection systems, advanced-base type boilers and pressure vessels, stationary refrigeration and air conditioning systems, and compressed air systems; organizes work schedules; prepares estimates; performs inspections; tests boilers and pressure vessels; serves as supervisor for steam, sewage, and water plants. *UTC:* Able to perform the duties required for UT1; drafts letters and reports; administers safety program; assigns personnel based on readiness reports; supervises and coordinates all unit tasks; provides technical advice; implements maintenance and cost control program; organizes and controls the site deployment of materials and equipment. *UTCS:* Able to perform the duties required for UTC; provides information and advice on utilization, capabilities, reliability, and operations in area of responsibility; prepares local directives and instructions for attaining objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel for maximum utilization; determines requirement for advanced base planning; coordinates equipment assignment; directs operation and maintenance of all utilities; establishes a maintenance/cost control program. *UTCM:* Able to perform the duties required for UTCS or CECS (Senior Chief Construction Electrician); plans, organizes, implements, and controls work activities in accordance with policy statements and directives; establishes goals and sets priorities; reviews personnel, equipment, and material requirements; develops procedures for work improvement and simplification through organizational analysis; serves as a construction inspector; manages a contract inspection branch; implements energy conservation and pollution control programs; assists in the management and operation of a public works department; develops operating budgets and monitors expenditures; forecasts future personnel, equipment, and material requirements and takes action necessary to satisfy them; is responsible for the administration of a department or company.

Recommendation, UT3

In the vocational certificate category, 3 semester hours in introduction to construction, 3 in utilities maintenance, and 3 in plumbing. In the lower-division baccalaureate/associate degree category, 3 semester hours in utilities construction and maintenance (1/77).

Recommendation, UT2

In the vocational certificate category, 3 semester hours in introduction to construction, 3 in utilities maintenance, 3 in plumbing, 3 in utilities installation, and 2 in blueprint reading and sketching. In the lower-division baccalaureate/associate degree category, 3 semester hours in utilities construction and maintenance, 3 in applied science, and 2 in general plans and specifications (1/77).

Recommendation, UT1

In the vocational certificate category, 6 semester hours in utilities installation, 3 in introduction to construction, 3 in utilities maintenance, 3 in plumbing, and 2 for blueprint reading and sketching. In the lower-division baccalaureate/associate degree category, 4 semester hours in utilities construction and maintenance, 3 in applied science, 3 in utilities construction estimating, 3 in water and sewage treatment systems, 2 in general plans and specifications, and 2 in personnel supervision (1/77).

Recommendation, UTC

In the vocational certificate category, 6 semester hours in utilities installation, 3 in introduction to construction, 3 in utilities maintenance, 3 in plumbing, and 2 for blueprint reading and sketching. In the lower-division baccalaureate/associate degree category, 4 semester hours in utilities construction and maintenance, 3 in applied science, 3 in utilities construction estimating, 3 in water and sewage treatment systems, 3 in personnel supervision, 2 in general plans and specifications, 2 in shop management, and 1 in safety management (1/77).

Recommendation, UTCS

In the vocational certificate category, 6 semester hours in utilities installation, 3 in introduction to construction, 3 in utilities maintenance, 3 in plumbing, and 2 for blueprint reading and sketching. In the lower-division baccalaureate/associate degree category, 4 semester hours in utilities construction and maintenance, 3 in applied science, 3 in utilities construction estimating, 3 in water and sewage treatment systems, 3 in personnel supervision, 2 in introduction to management, 2 in general plans and specifications, 2 in shop management, and 1 in safety management. In the upper-division baccalaureate category, 3 semester hours for a practicum in management and 3 in human relations (1/77).

Recommendation, UTCM

In the vocational certificate category, use the recommendation for UT1 or CE1 (Construction Electrician First Class) in exhibit NER-CE-001, as appropriate. In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of administration, 3 in construction contracts and agreements, and 3 in government budgeting; add either the 23 semester hours for UTCS or the 17 semester hours for CECS (Senior Chief Construction Electrician) in exhibit NER-CE-001, as appropriate. In the upper-division baccalaureate category, 6 semester hours for a practicum in management, 3 in human relations, 3 in management problems, and 3 in forecasting (1/77).

NER-UT-002

UTILITIESMAN

UT3
UT2
UT1
UTC
UTCS

Exhibit Dates: 1/91–Present.

Occupational Field: 13 (Construction).

Career Pattern

CN: Constructionman (E-3). *UT3:* Utilitiesman, Third Class (E-4). *UT2:* Utilitiesman, Second Class (E-5). *UT1:* Utilitiesman, First Class (E-6). *UTC:* Chief Utilitiesman (E-7). *UTCS:* Senior Chief Utilitiesman (E-8). *UTCM:* Master Chief Utilitiesman (E-9).

Description

Summary: Plans, supervises, and performs tasks involved in the installation, maintenance, and repair of plumbing, heating, steam, compressed air, fuel storage, and distribution systems, water treatment and distribution systems, air conditioning and refrigeration equipment, and sewage collection and disposal facilities. *UT3:* Installs immersion can heaters and space heater, fuel lines, and piping and pressure vessel insulation materials; performs prestart checks and maintains and operates assigned vehicles; maintains boilers, water plants, air conditioning and refrigeration equipment, and pumps and air compressors; performs minor repairs on immersion can heaters and space heaters; solders/brazes soft and hard drawn copper tubing and fittings; measures, cuts, and threads galvanized steel pipe, cast iron soil pipe, cement-asbestos pipe, and plastic pipe; identifies color coding used on piping systems and compressed gas cylinders; cleans watersides and firesides of boilers; handles chemicals used in treating water and sewage. *UT2:* Able to perform the duties required for UT3; reads and works from drawings and specifications; prepares simple shop drawings and sketches; prepares time cards and material requisitions; installs water systems, packaged refrigeration and air conditioning systems, and pressure, check, and shut-off valves; installs laundry equipment, heating systems, galley equipment, plumbing fixtures, water heaters, and sewage systems; performs water treatment and purification tests; maintains and repairs laundry equipment; tests, adjusts, and recalibrates gauges; repairs valves. *UT1:* Able to perform the duties required for UT2; prepares work progress and material usage reports; conducts personnel readiness interviews; implements training for team/crew members; constructs septic tanks, cesspools, and leaching fields; installs fire protection systems, advanced-base type boilers and pressure vessels, stationary refrigeration and air conditioning systems, and compressed air systems; organizes work schedules; prepares estimates; performs inspections; tests boilers and pressure vessels; serves as supervisor for steam, sewage, and water plants. *UTC:* Able to perform the duties required for UT1; drafts letters and reports; administers safety program; assigns personnel based on readiness reports; supervises and coordinates all unit tasks; provides technical advice; implements maintenance and cost control program; organizes and controls the site deployment of materials and equipment. *UTCS:* Able to perform the duties required for UTC; provides information and advice on utilization, capabilities, reliability, and operations in area of responsibility; prepares local directives and instructions for attaining objectives and improving operations; prepares correspondence; establishes and implements a program for interviewing, evaluating, and assigning personnel for maximum utilization; determines requirements for advanced-base planning; coordinates equipment assignment; directs operation and maintenance of all utilities; establishes a maintenance/cost control program.

Recommendation, UT3

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in plumbing, and 3 in utility maintenance (6/91).

Recommendation, UT2

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in plumbing, 3 in utility maintenance, 3 in utility installation, 2 in blueprint reading and sketching, 3 in applied physics, 2 in general plans and specifications, and 1 in personnel supervision (6/91).

Recommendation, UT1

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in plumbing, 3 in utility maintenance, 3 in utility installation, 2 in blueprint reading and sketching, 3 in applied physics, 2 in general plans and specifications, 3 in utility construction estimating, 3 in water and sewage treatment systems, 2 in personnel supervision, and 2 in maintenance management (6/91).

Recommendation, UTC

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in plumbing, 3 in utility installation, 3 in utility maintenance, 2 in blueprint reading and sketching, 3 in applied physics, 2 in general plans and specifications, 3 in utility construction estimating, 3 in water and sewage treatment systems, 3 in personnel supervision, 3 in maintenance management, 2 in supply management, and 2 in records and information management (6/91).

Recommendation, UTCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in introduction to construction, 3 in plumbing, 3 in utility installation, 2 in blueprint reading and sketching, 3 in applied physics, 3 in utility maintenance, 2 in general plans and specifications, 3 in utility construction estimating, 3 in water and sewage treatment systems, 3 in personnel supervision, 3 in maintenance management, 2 in supply management, and 2 in records and information management. In the upper-division baccalaureate category, 3 semester hours in organizational management and 3 for field experience in management (6/91).

NER-WT-001

WEAPONS TECHNICIAN

WT3
WT2
WT1
WTC
WTCS
WTCM

Exhibit Dates: 1/90–4/96. Effective 4/96, the Weapons Technician rating has been discontinued.

Occupational Field: 9 (Ordnance Systems).

Career Pattern

SN: Seaman (E-3). *WT3:* Weapons Technician, Third Class (E-4). *WT2:* Weapons Technician, Second Class (E-5). *WT1:* Weapons Technician, First Class (E-6). *WTC:* Chief Weapons Technician (E-7). *WTCS:* Senior Chief Weapons Technician (E-8). *WTCM:* Master Chief Weapons Technician (E-9).

Description

Summary: Performs organizational, intermediate, and depot maintenance on nuclear weapons and components; stores, inspects, tests, adjusts, repairs, and packages nuclear weapon components and associated equipment; assembles, disassembles, and converts nuclear weapons, warheads, and/or components; maintains magazines and assembly and stowage areas; maintains sprinkler and alarm systems. *WT3:* Packages, unpackages, handles, and stows nuclear weapons; operates handling equipment applicable to nuclear weapons; inspects magazines and records temperatures; performs modernization and stowage monitoring tests on nuclear weapons and components; operates torquing tools; repairs sealing surfaces, mating areas and threads; replaces fastening hardware and seals, pipe fittings, seals, and gaskets; inspects and cleans components of electrical equipment; solders, wire wraps connections, and tests for shorts, grounds, and continuity; replaces electrical components; installs and removes dust covers and shorting plugs; uses and cares for pneumatic and electrical power tools; operates measuring devices; detects and treats corrosion; performs preventive maintenance; operates magazine fire fighting systems; performs nuclear weapons accident response and decontamination procedures; completes maintenance data system forms; uses drawings; inventories tools and portable test equipment. *WT2:* Able to perform the duties required for WT3; replaces nuclear weapon components; inspects nuclear weapons, components, and equipment; tests alarm and sensing devices; troubleshoots and repairs ordnance electrical systems; maintains nuclear weapons test equipment; installs components in hydraulic systems; troubleshoots and repairs hydraulic pumps; repairs magazine fire fighting systems; maintains publications; complies with requirements for nuclear weapons tactical inspections. *WT1:* Able to perform the duties required for WT2; identifies damaged explosive ordnance components; repairs hydraulic system components; prepares planned maintenance schedules; supervises response to nuclear accidents and incidents; supervises modernizations, alterations, and modifications. *WTC:* Able to perform the duties required for WT1; inspects completed modernizations; inspects nuclear weapons material stowage, space layout, and storeroom maintenance; coordinates repair and calibration of test equipment; prepares reports; supervises training programs. *WTCS:* Able to perform the duties required for WTC; administers long-range planned maintenance programs; prepares ordnance loading and stowage plans; coordinates weapon overhaul and repair; writes correspondence, directives, and instructions; organizes and schedules training programs and evaluates effectiveness. *WTCM:* Able to perform the duties required for WTCS; establishes goals, objectives, and priorities; plans, organizes, implements, and controls activities; reviews personnel, equipment, and material requirements; evaluates new trends in weapons systems; develops operating budgets and monitors expenditures; forecasts future requirements.

Recommendation, WT3

Credit is not recommended because of the limited or specialized nature of the skills, competencies, and knowledge (10/87).

Recommendation, WT2

Credit is not recommended because of the limited or specialized nature of the skills, competencies, and knowledge (10/87).

Recommendation, WT1

In the lower-division baccalaureate/associate degree category, 2 semester hours in personnel supervision, 3 in human relations, and 2 in maintenance management (10/87).

Recommendation, WTC

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 3 in human relations, and 3 in maintenance management (10/87).

Recommendation, WTCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 3 in human relations, and 3 in maintenance management. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/87).

Recommendation, WTCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 3 in human relations, and 3 in maintenance management. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in personnel management, and 3 in management problems (10/87).

NER-YN-002

YEOMAN
YN3
YN2
YN1
YNC
YNCS
YNCM

Exhibit Dates: 1/90–Present.

Occupational Field: 15 (Administration).

Career Pattern

SN: Seaman (E-3). *YN3:* Yeoman, Third Class (E-4). *YN2:* Yeoman, Second Class (E-5). *YN1:* Yeoman, First Class (E-6). *YNC:* Chief Yeoman (E-7). *YNCS:* Senior Chief Yeoman (E-8). *YNCM:* Master Chief Yeoman (E-9).

Description

Summary: Performs general office, clerical, and administrative duties, including typewriting, office machine operation, office communication, and filing and records maintenance. *YN3:* Maintains files; operates duplicating, adding, calculating, and copying machines; serves as paralegal counselor when a legalman is not available; types correspondence, reports, and other communication from rough draft (a straight-copy typing rate of at least 30 words per minute is required). *YN2:* Able to perform the duties required for YN3; organizes and monitors filing and records maintenance, retention, and disposal; maintains officer personnel records; routes correspondence; types records, correspondence, and reports (a straight-copy typing rate of at least 40 words per minute is required); sends, receives, and accounts for official and registered mail; advises personnel of benefits, types of duty, and resolution of personal problems. *YN1:* Able to perform the duties required for YN2; drafts correspondence, instructions, and notices (a straight-copy typing rate of at least 50 words per minute is required); verifies accuracy of job orders and work requests; assists in the supervision of clerical functions. *YNC:* Able to perform the duties required for YN1; maintains classified materials controls system; verifies accuracy of official correspondence and reports; monitors submission and maintenance of officer fitness reports; supervises and directs clerical functions. *YNCS:* Able to perform the duties required for YNC; interviews, assigns, supervises, and evaluates office personnel; recommends improvements in office procedures; procures and allocates office materials and equipment; supervises and controls the security of sensitive records; trains office personnel; functions as office supervisor. *YNCM:* Able to perform the duties required for YNCS; establishes goals, objectives, and priorities in the administration of the office function; plans, organizes, implements, coordinates, and controls activities; reviews and makes recommendations concerning office personnel, equipment, and supply requirements; develops operating budget for the office and monitors office expenditures; prepares staff studies.

Recommendation, YN3

In the lower-division baccalaureate/associate degree category, 2 semester hours in typing, 1 in record keeping, 1 in clerical procedures, 1 in automatic data processing (ADP) operations, 1 in interpersonal communication, and 1 in military legal practices and procedures (3/90).

Recommendation, YN2

In the lower-division baccalaureate/associate degree category, 2 semester hours in typing, 1 in record keeping, 2 in clerical procedures, 2 in automatic data processing (ADP) operations, 1 in interpersonal communication, and 1 in military legal practices and procedures (3/90).

Recommendation, YN1

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 2 in record keeping, 2 in clerical procedures, 2 in automatic data processing (ADP) operations, 2 in technical writing, 2 in interpersonal communication, and 2 in military legal practices and procedures. In the upper-division baccalaureate category, 2 semester hours in management problems (3/90).

Recommendation, YNC

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 2 in record keeping, 3 in clerical procedures, 2 in automatic data processing (ADP) operations, 3 in technical writing, 1 in office administration, 1 in principles of supervision, 2 in interpersonal communication, and 2 in military legal practices and procedures. In the upper-division baccalaureate category, 2 semester hours for field experience in management, 2 in management problems, and 2 in human resource management (3/90).

Recommendation, YNCS

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 2 in record keeping, 3 in clerical procedures, 2 in automatic data processing (ADP) operations, 3 in technical writing, 2 in office administration, 2 in principles of supervision, 3 in interpersonal communication, and 3 in military legal practices and procedures. In the upper-division baccalaureate category, 2 semester hours for field experience in management, 3 in management problems, and 3 in human resource management (3/90).

Recommendation, YNCM

In the lower-division baccalaureate/associate degree category, 3 semester hours in typing, 2 in record keeping, 3 in clerical procedures, 2 in automatic data processing (ADP) operations, 3 in technical writing, 2 in office administration, 2 in principles of supervision, 3 in interpersonal communication, and 3 in military legal practices and procedures. In the upper-division baccalaureate category, 3 semester hours for field experience in management, 3 in management problems, and 3 in human resource management (3/90).

Navy Limited Duty Officer Exhibits

LDO-611X-001

DECK (SURFACE)
611X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Deck (Surface) Limited Duty Officer from Boatswain's Mate (BM), Quartermaster (QM), Signalman (SM), or Boatswain (Surface) Warrant Officer (711X).

Description

Serves as an officer technical manager in the field of seamanship and navigation; plans, supervises, and directs activities of deck and navigation personnel in performance of operational and maintenance functions; plans, develops, and administers deck navigation training programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns and coordinates activities of personnel under their command; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/85).

LDO-611X-002

SURFACE DECK
611X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Deck (Surface) Limited Duty Officer from Boatswain's Mate (BM), Quartermaster (QM), Signalman (SM), or Boatswain (Surface) Warrant Officer (711X).

Description

Serves as an officer technical manager in the field of seamanship and navigation; plans, supervises, and directs activities of deck and navigation personnel in performance of operational and maintenance functions; plans, develops, and administers deck navigation training programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns and coordinates activities of personnel under their command; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 in management information systems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-612X-001

OPERATIONS
(Operations (Surface))
612X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Operations (Surface) Limited Duty Officer from Electronics Warfare Technician (EW), Operations Specialist (OS), Ocean Systems Technician (OT), Quartermaster (QM), Radioman (RM), Signalman (SM), Sonar Technician (ST), or Operations Surface Technician Warrant Officer (712X).

Description

Serves as an officer technical manager in the operation, employment, and application of techniques, equipment, systems, and procedures in operations and communications; supervises and trains personnel in the operation and maintenance of operations and communications equipment and systems; plans, directs, and controls operations and communications activities; advises and assists commands in the above areas and in the employment and utilization of associated facilities and installations; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/85).

LDO-612X-002

SURFACE OPERATIONS
612X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Operations (Surface) Limited Duty Officer from Electronics Warfare Technician (EW); Operations Specialist (OS); Ocean Systems Technician (OT); Sonar Technician (ST); or Operations Surface Technician Warrant Officer (712X).

Description

Serves as an officer technical manager in the operation, employment, and application of techniques, equipment, systems, and procedures in operations and communications; supervises and trains personnel in the operation and maintenance of operations and communications equipment and systems; plans, directs, and controls operations and communications activities; advises and assists commands in the above areas and in the employment and utilization of associated facilities and installations; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 in management information systems, 6 for field experience in management, and 3 in any of the following areas: project management, leadership, or budget administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-613X-001

ENGINEERING/REPAIR (SURFACE)
613X

Exhibit Dates: 1/90–2/96.

Career Pattern

May have progressed to Engineering/Repair (Surface) Limited Duty Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician, Electrical (GSE); Gas Turbine System Technician, Mechanical (GSM); Hull Maintenance Technician (HT); Instrumentman (IM); Interior Communications Electrician (IC); Machinery Repairman (MR); Machinist's Mate (MM); Molder (ML); Opticalman (OM); Patternmaker (PM); Precision Instrumentman, Master Chief (PICM); Engineering Technician

(Submarine) Warrant Officer (723X); Engineering Technician (Surface) Warrant Officer (713X); Repair Technician (Submarine) Warrant Officer (724X); or Repair Technician (Surface) Warrant Officer (714X).

Description

Serves as an officer technical manager in the field of surface ship marine engineering, including maintenance and repair of main propulsion (gas turbine, diesel, and steam), electrical, and auxiliary machinery and systems, ship's hull, structure and associated fittings, and practical and theoretical damage control procedures; plans, administers, and supervises the installation, operation, maintenance, and repair of equipment; makes ship alterations or design modifications; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, organizes, and controls industrial shop production; develops and administers policy and procedures for regulating and integrating work or repair facilities.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/84).

LDO-613X-002

Surface Engineering/Repair
613X

Exhibit Dates: 3/96–Present.

Career Pattern

May have progressed to Engineering/Repair (Surface) Limited Duty Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician (GS); Interior Communications Electrician (IC); Machinist's Mate (MM); Engineering Technician (Surface) Warrant Officer (713X); or Repair Technician (Surface) Warrant Officer (714X).

Description

Serves as an officer technical manager in the field of surface ship marine engineering, including maintenance and repair of main propulsion (gas turbine, diesel, and steam), electrical, and auxiliary machinery and systems, ship's hull, structure and associated fittings, and practical and theoretical damage control procedures; plans, administers, and supervises the installation, operation, maintenance, and repair of equipment; makes ship alterations or design modifications; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, organizes, and controls industrial shop production; develops and administers policy and procedures for regulating and integrating work or repair facilities; applies many elements of total quality management and quality assurance; uses computerized management information systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in management information systems, 3 in quality control systems, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/96).

LDO-616X-002

Surface Ordnance
616X

Exhibit Dates: 1/90–2/96.

Career Pattern

May have progressed to Surface Ordnance Limited Duty Officer from Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Gunner's Mate (GM); Gunner's Mate, Guns (GMG); Gunner's Mate, Missiles (GMM); Gunner's Mate Technician (GMT); Missile Technician (MT); Torpedoman's Mate (TM); or Ordnance Technician Warrant Officer (716X).

Description

Serves as an officer technical manager with practical experience in ordnance operations; plans, supervises, trains, and directs subordinates in the operation, maintenance, and repair of ordnance equipment and related systems; assists, plans, coordinates, and advises commands and staffs in ordnance management, logistics, repair, and safety; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-616X-003

Surface Ordnance
616X

Exhibit Dates: 3/96–Present.

Career Pattern

May have progressed to Surface Ordnance Limited Duty Officer from Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Fire Controlman (FC); Gunner's Mate, Guns (GMG); Gunner's Mate, Missiles (GMM); Mineman (MN); Torpedoman's Mate (TM); or Surface Ordnance Technician Warrant Officer (716X).

Description

Serves as an officer technical manager with practical experience in ordnance operations; plans, supervises, trains, and directs subordinates in the operation, maintenance, repair, and tests of ordnance equipment and related systems; assists, plans, coordinates, and advises commands and staffs in ordnance management, logistics, repair, and safety; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, directs, and evaluates activities of subordinates; applies many elements of total quality management and quality assurance; and uses computerized management information systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in management information systems, and 3 in quality control systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/96).

LDO-618X-001

Electronics (Surface)
618X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Electronics (Surface) Limited Duty Officer from Data Systems Technician (DS); Electronic Warfare Technician (EW); Electronics Technician (ET); Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Ocean Systems Technician (OT); Operations Specialist (OS); Sonar Technician (ST); or Electronics Technician (Surface) Warrant Officer (718X).

Description

Serves as an officer technical manager in the field of non-nuclear electronics; plans, coordinates, directs, and supervises the installation, operation, and maintenance of all non-nuclear electronic systems installed in units of the surface force; conducts operational evaluations of new installations and modifications to existing systems; provides operational and technical input to the research and development community for consideration in the design and testing of electronic systems or components; prepares and distributes operator training courses and operation guidance for electronic systems; plans, schedules, and conducts training for electronics personnel; writes reports and provides technical advice about electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 5 for field experience in management, and 2 for field experience in electronics. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (1/84).

LDO-618X-002

SURFACE ELECTRONICS
618X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Electronics (Surface) Limited Duty Officer from Data Systems Technician (DS); Electronic Warfare Technician (EW); Electronics Technician (ET); Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Ocean Systems Technician (OT); Operations Specialist (OS); Sonar Technician (ST); or Electronics Technician (Surface) Warrant Officer (718X).

Description

Serves as an officer technical manager in the field of non-nuclear electronics; plans, coordinates, directs, and supervises the installation, operation, and maintenance of all non-nuclear electronic systems installed in units of the surface force; conducts operational evaluations of new installations and modifications to existing systems; provides operational and technical input to the research and development community for consideration in the design and testing of electronic systems or components; prepares and distributes operator training courses and operation guidance for electronic systems; plans, schedules, and conducts training for electronics personnel; writes reports, prepares budgets, and provides technical advice about electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 5 for field experience in management, 3 in management information systems, and 3 in budget administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-619X-001

SURFACE COMMUNICATIONS
619X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Surface Communications Limited Duty Officer from Radioman (RM) or Surface Communications Technician Warrant Officer (719X).

Description

Serves as an officer technical manager in the operation, employment, and application of techniques, equipment, systems, and procedures in surface communications, with practical experience in these areas; assists and advises commands in communication planning, direction, and control and in the employment and utilization of associated facilities and installations; organizes, supervises, and directs performance of communications personnel; assists in the administration of onboard training programs, facilities, and services; formulates, directs, and evaluates training program; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-619X-002

SURFACE COMMUNICATIONS
619X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Surface Communications Limited Duty Officer from Radioman (RM) or Surface Communications Technician Warrant Officer (719X).

Description

Serves as an officer technical manager in the operation, employment, and application of techniques, equipment, systems, and procedures in surface communications, with practical experience in these areas; assists and advises commands in communication planning, direction, and control and in the employment and utilization of associated facilities and installations; organizes, supervises, and directs performance of communications personnel; assists in the administration of onboard training programs, facilities, and services; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 in management information systems, 6 for field experience in management, and 3 in any of the following areas: project management, leadership, or budget administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-621X-001

DECK (SUBMARINE)
621X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Deck (Submarine) Limited Duty Officer from Boatswain's Mate (BM), Quartermaster (QM), Signalman (SM), or Boatswain (Submarine) Warrant Officer (721X).

Description

Serves as an officer technical manager in the field of seamanship, navigation, and deep sea diving; plans, supervises, and directs activities of deck, navigation, and deep sea diving personnel in performance of operational and maintenance functions; plans, develops, and administers deck, navigation, and diver training programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns and coordinates activities of subordinates; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/85).

LDO-621X-002

SUBMARINE DECK
621X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Deck (Submarine) Limited Duty Officer from Boatswain's Mate (BM), Quartermaster (QM), Signalman (SM), or Boatswain (Submarine) Warrant Officer (721X).

Description

Serves as an officer technical manager in the field of seamanship and navigation; plans, supervises, and directs activities of deck and navigation personnel in performance of operational and maintenance functions; plans, develops, and administers deck and navigation training programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns and coordinates activities; writes technical reports and personnel evaluation reports; and applies many elements of total quality management and quality assurance.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in management information systems, and 3 in quality control systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-623X-002

Engineering/Repair (Submarine)
623X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Engineering/Repair (Submarine) Limited Duty Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician, Electrical (GSE); Gas Turbine System Technician, Mechanical (GSM); Hull Maintenance Technician (HT); Instrumentman (IM); Interior Communications Electrician (IC); Machinery Repairman (MR); Machinist's Mate (MN); Molder (ML); Opticalman (OM); Patternmaker (PM); Precision Instrumentman, Master Chief (PICM); Engineering Technician (Submarine) Warrant Officer (723X); Engineering Technician (Surface) Warrant Officer (713X); Repair Technician (Submarine) Warrant Officer (724X); or Repair Technician (Surface) Warrant Officer (714X).

Description

Serves as an officer technical manager in the field of ship marine engineering including maintenance and repair of main propulsion (gas turbine, diesel, and steam), electrical, and auxiliary machinery and systems, ship's hull, structure and associated fittings, and practical and theoretical damage control procedures; plans, administers, and supervises the installation, operation, maintenance, and repair of equipment; makes ship alteration or designs modification; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, organizes and controls industrial shop production; develops and administers policy and procedures for regulating and integrating work at auxiliary or repair facilities.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/84).

LDO-623X-003

Submarine Engineering/Repair
623X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Engineering/Repair (Submarine) Limited Duty Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician, (GS); Hull Maintenance Technician (HT); Instrumentman (IM); Interior Communications Electrician (IC); Machinery Repairman (MR); Machinist's Mate (MN); Molder (ML); Opticalman (OM); Patternmaker (PM); Precision Instrumentman, Master Chief (PICM); Engineering Technician (Submarine) Warrant Officer (723X); Engineering Technician (Surface) Warrant Officer (713X); Repair Technician (Submarine) Warrant Officer (724X).

Description

Serves as an officer technical manager in the field of ship marine engineering including maintenance and repair of main propulsion (gas turbine, diesel, and steam), electrical, and auxiliary machinery and systems, ship's hull, structure and associated fittings, and practical and theoretical damage control procedures; plans, administers, and supervises the installation, operation, maintenance, and repair of equipment; makes ship alteration or designs modification; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, organizes and controls industrial shop production; develops and administers policy and procedures for regulating and integrating work at auxiliary or repair facilities; uses computer software.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, and 4 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-626X-002

Submarine Ordnance
626X

Exhibit Dates: 1/90–2/96.

Career Pattern

May have progressed to Submarine Ordnance Limited Duty Officer from Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Gunner's Mate (GM); Gunner's Mate, Guns (GMG); Gunner's Mate, Missiles (GMM); Gunner's Mate Technician (GMT); Missile Technician (MT); Torpedoman's Mate (TM); or Submarine Ordnance Technician Warrant Officer (726X).

Description

Serves as an officer technical manager in the strategic weapons and ordnance field, with practical experience in related areas; plans, supervises, trains, and directs subordinates in the operation and maintenance of ordnance and related equipment; assists, plans, coordinates, and advises commands in operational, maintenance, and technical ordnance related matters; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-626X-003

Submarine Ordnance
626X

Exhibit Dates: 3/96–Present.

Career Pattern

May have progressed to Submarine Ordnance Limited Duty Officer from Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Controlman (FC); Gunner's Mate (GM); Gunner's Mate, Guns (GMG); Gunner's Mate, Missiles (GMM); Gunner's Mate Technician (GMT); Mineman (MN); Torpedoman's Mate (TM); Weapons Technician (WT); or Submarine Ordnance Technician Warrant Officer (726X).

Description

Serves as an officer technical manager in the strategic weapons and ordnance field, with practical experience in related areas; plans, supervises, trains, evaluates, and directs subordinates in the operation and maintenance of ordnance and related equipment; assists, plans, coordinates, and advises commands in operational, maintenance, and technical ordnance related matters; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates; applies many elements of total quality management and quality assurance.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in management information systems, and 3 in quality control systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/96).

LDO-628X-001

Electronics (Submarine)
628X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Electronics Technician (Submarine) Limited Duty Officer 628X from Data Systems Technician (DS); Electronics Technician (ET); Electronics Warfare Technician (EW); Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Operations Specialist (OS); Ocean Systems Technician (OT); Sonar Technician (ST); or Electronics Technician (Submarine) Warrant Officer (728X).

Description

Serves as an officer technical manager in the field of electronics; plans, coordinates, directs, and supervises the installation, operation, and maintenance of electronic systems; plans, organizes, and manages the activities of technical personnel; provides the leadership necessary to guide personnel and develop individual responsibility for the training and growth of assigned personnel; writes reports and provides advice about electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, and 4 for field experience in electronics. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (1/84).

LDO-628X-002

Submarine Electronics
628X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Electronics Technician (Submarine) Limited Duty Officer 628X from Data Systems Technician (DS); Electronics Technician (ET); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Controlman (FT); Ocean Systems Technician (OT); Sonar Technician (ST); or Electronics Technician (Submarine) Warrant Officer (728X).

Description

Serves as an officer technical manager in the field of electronics; plans, coordinates, directs, and supervises the installation, operation, and maintenance of electronic systems; plans, organizes, and manages the activities of technical personnel; provides the leadership necessary to guide staff and develop individual responsibility for the training and growth of assigned personnel; writes reports and provides advice about electronic and computer systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, 3 for field experience in management, and 4 for field experience in electronics. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-629X-001

Submarine Communications
629X

Exhibit Dates: 1/90–Present.

Career Pattern

May have progressed to Submarine Communications Limited Duty Officer from Radioman (RM) or Submarine Communication Technician Warrant Officer (729X).

Description

Serves as an officer technical manager in the operation, employment, and application of techniques, equipment, systems, and procedures in submarine communications, with practical experience in these areas; assists and advises commands in communication planning, direction and control and in the employment and utilization of communications personnel; assists in administration of onboard training programs, facilities, and services; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/96).

LDO-630X-003

Aviator
630X

Exhibit Dates: 1/90–12/90.

Career Pattern

May have progressed to Aviator Limited Duty Officer from any enlisted rating or Warrant Officer Specialty.

Description

Serves as a flight training specialist in naval aviation flight training programs; provides flight instruction in aircraft and ground (academic and simulator) training for prospective naval aviators in the primary flight training environment; writes reports and provides assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, aviation programs vary considerably at different institutions. Forty to sixty semester hours in an aviation flight technology program may be awarded. 3 semester hours may be awarded in some or all of the following areas, which are generally included in aviation programs: history of aviation, aviation safety, safety of flight, physiology of flight, general aviation, aircraft weather, airframe structures and/or systems, power plant structures and/or systems, federal aviation regulations, aircraft transportation, aircraft business organization and management, corporate and business aviation, government and aviation, aviation insurance, aviation law, air cargo operation, air carrier operation, aircraft navigation, advanced aircraft navigation, and air traffic control procedures. (See note.) For individuals holding military pilot ratings (equivalent to FAA ratings), 3 semester hours may be awarded in some or all of the following areas: student pilot rating, private pilot ground school, private pilot rating, commercial pilot ground school, commercial pilot rating (up to 9 semester hours), instrument pilot ground school, and instrument pilot rating. For individuals holding military instructor pilot ratings (equivalent to FAA ratings), an additional 3 semester hours may be awarded in some or all of the following areas: flight instructor FAA regulations, flight instructor rating, instrument flight instructor ground school, instrument flight instructor rating, and multiengine flight instructor rating. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 3 for field experience in aviation administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration. All Aviator LDOs should receive the following credit: In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 in general mathematics (10/85).

LDO-630X-004

Aviator
630X

Exhibit Dates: 1/91–Present.

Career Pattern

May have progressed to Aviator Limited Duty Officer from any enlisted rating or warrant officer specialty.

Description

Serves as a flight training specialist in naval aviation flight training programs; provides initial, intermediate, and advanced flight instruction in aircraft and ground (academic and simulator) training for prospective naval aviators in the primary flight training environment; writes reports and provides assistance and advice; plans, supervises, and directs activities of subordinates; acts as a line pilot for carrier-capable aircraft; position allows potential advancement to a senior air operations manager.

Recommendation

In the lower-division baccalaureate/associate degree category, aviation programs vary considerably at different institutions. Forty to sixty semester hours in an aviation flight technology program may be awarded. In some or all of the following areas, 3 semester hours may be awarded which are generally included in aviation programs: history of aviation, aviation safety, safety of flight, physiology of flight, general aviation, aircraft weather, airframe structures and/or systems, power plant structures and/or systems, federal aviation regulations, aircraft transportation, aircraft business organization and management, corporate and business aviation, government and aviation, aviation insurance, aviation law, air cargo operation, air carrier operation, aircraft navigation, advanced aircraft navigation, and air traffic control procedures. (See note.) For individuals holding military pilot ratings (equivalent to FAA ratings), 3 semester hours may be awarded in some or each of the following areas: student pilot rating, private pilot ground school, private pilot rating, commercial pilot ground school, commercial pilot rating (up to 9 semester hours), instrument pilot ground school, and instrument pilot rating. For individuals holding military instructor pilot ratings (equivalent to FAA ratings), an additional 3 semester hours may be awarded in some or all of the following areas: flight instructor FAA regulations, flight instructor rating, instrument flight instructor ground school, instrument flight instructor rating, and multi-engine flight instructor rating. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 3 for field experience in aviation administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration. All Aviator LDOs should receive the following credit: In the lower-division baccalaureate/associate degree category, 2 semester hours in technical report writing, 1 in public speaking, 3 in personnel supervision, and 3 in general mathematics (11/97).

LDO-631X-001

Aviation (Deck)
631X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Aviation (Deck) Limited Duty Officer from Aviation Boatswain's Mate (AB); Aviation Boatswain's Mate, Launching and Recovery Equipment (ABE); Aviation Boatswain's Mate, Fuels (ABF); Aviation Boatswain's Mate, Aircraft Handling (ABH); or Aviation Boatswain Warrant Officer (731X).

Description

Serves as an officer technical manager in aircraft handling and support operations aboard ship; plans and supervises loading, spotting, launching, recovering, and fueling aboard aircraft carriers and other aircraft-capable ships; supervises the maintenance and operation of aircraft catapults, arresting gear, aircraft fueling systems, and aircraft crash, fire, and salvage operations; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/85).

LDO-631X-002

Aviation (Deck)
631X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Aviation (Deck) Limited Duty Officer from Aviation Boatswain's Mate (AB); Aviation Boatswain's Mate, Launching and Recovery Equipment (ABE); Aviation Boatswain's Mate, Fuels (ABF); Aviation Boatswain's Mate, Aircraft Handling (ABH); or Aviation Boatswain Warrant Officer (731X).

Description

Serves as an officer technical manager in aircraft handling and support operations aboard ship; plans and supervises loading, spotting, launching, recovering, and fueling aboard aircraft carriers and other aircraft-capable ships; may supervise the maintenance and operation of aircraft catapults, arresting gear, optical landing systems, aircraft fueling systems, and aircraft crash, fire, and salvage operations; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing and 3 in interpersonal communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 in logistics management, and 3 for a management internship. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in organizational management; if the rank of Commander has been attained, 3 additional semester hours in organizational management and 3 in financial management (10/96).

LDO-632X-001

Aviation Operations
632X

Exhibit Dates: 1/90–1/98.

Career Pattern

May have progressed to Aviation Operations Limited Duty Officer from Aviation Antisubmarine Warfare Operator (AW) Acoustic, Non-acoustic, or Helicopter, or Aviation Operations Technician Warrant Officer (732X).

Description

Serves as an officer technical manager in either the field of air traffic control or air antisubmarine warfare. If serves in the field of air traffic control, organizes and supervises control tower operations, base operations, heliport operations, surveillance and approach radars, approach/departure control radars, planning airspace utilization, and air traffic control procedures and training program for qualification of air traffic controllers; coordinates operational procedures with FAA and US military and foreign air traffic control facilities; employs a broad knowledge of federal air regulations, terminal and enroute air traffic control procedures, and planning; demonstrates knowledge of ground-to-air communications, radar operations, recording equipment, teletype and landline communications, navigational aids, and weather. If serves in the field of air antisubmarine warfare, assists in organization, supervision, and direction of tactical support center operations; briefs and debriefs operational flight crews; evaluates and determines inflight operational efficiency of sensor system components and sensor operations; supervises preflight, inflight, and postflight inspections of antisubmarine warfare equipment, collection, preparation, and transmission of data to appropriate analysis agencies; flies in support of mission of unit to which assigned; has broad knowledge of the characteristics and employment of US and foreign submarines, warships, small craft, merchant ships and principles of radar, magnetic detection, electronic countermeasures, and underwater acoustics; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/85).

LDO-632X-002

Aviation Operations
632X

Exhibit Dates: 2/98–Present.

Career Pattern

May have progressed to Aviation Operations Limited Duty Officer from Aviation Warfare Systems Operator (AW) Acoustic, Non-Acoustic, or Helicopter; or Aviation Operations Warrant Officer (732X).

Description

Serves as an officer technical manager in the tactical control of overall antisubmarine assets; responsible, under the ship's Tactical Action

Officer, for antisubmarine (ASW) search patterns, analysis of appropriate data and actual commitment of resources toward the prosecution of a suspected target; has overall responsibility for coordination of ASW operations within the battle group; is responsible for the safety of flight in the ASW sector, involving knowledge of air traffic control procedures and planning, and an in-depth knowledge of ground-to-air communications, radar operations, recording equipment, navigational aids, weather and oceanographic features; conducts both preflight briefs and postflight debriefs for operational flight crews; responsible for overall mission evaluation after the exercise; presents a formal briefing of the result of the analysis to superior officers.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 2 in flight safety procedures, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 6 for field experience in management, 3 in professional development, and 4 in computer applications. If the rank of Lieutenant Commander has been attained, 2 additional semester hours in each of the following areas: project management, human resource management, and budget administration; if the rank of Commander has been attained, 3 additional semester hours in each of the following areas: project management, human resource management, and budget administration (2/98).

LDO-633X-001

Aviation Maintenance
633X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Aviation Maintenance Limited Duty Officer from Aviation Machinist's Mate (AD); Master Chief Aircraft Maintenanceman (AFCM); Aviation Structural Mechanic (AM); Aviation Structural Mechanic, Safety Equipment (AME); Aviation Structural Mechanic, Hydraulics (AMH); Aviation Structural Mechanic, Structures (AMS); Aviation Support Equipment Technician (AS); Aviation Maintenance Administrationman (AZ); Aircrew Survival Equipmentman (PR); or Aviation Maintenance Technician Warrant Officer (734X).

Description

Serves as an officer technical manager in the field of aviation maintenance; plans and supervises the execution of aviation maintenance programs at the organizational, intermediate, and depot levels; develops quality assurance standards and procedures to ensure flight safety and proper material condition of aircraft; develops and administers programs for the development, testing, and evaluation of aircraft maintenance systems and methods; develops, reviews, and verifies aircraft maintenance logs, records, and reports; analyzes new developments and technological advances in aviation maintenance; administers aeronautical material procurement programs; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-633X-002

Aviation Maintenance
633X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Aviation Maintenance Limited Duty Officer from Aviation Machinist's Mate (AD); Master Chief Aircraft Maintenanceman (AFCM); Aviation Structural Mechanic (AM); Aviation Structural Mechanic, Safety Equipment (AME); Aviation Structural Mechanic, Hydraulics (AMH); Aviation Structural Mechanic, Structures (AMS); Aviation Support Equipment Technician (AS); Aviation Maintenance Administrationman (AZ); Aircrew Survival Equipmentman (PR); or Aviation Maintenance Technician Warrant Officer (734X).

Description

Serves as an officer technical manager in the field of aviation maintenance; plans and supervises the execution of aviation maintenance programs at the organizational, intermediate, and depot levels; develops quality assurance standards and procedures to ensure flight safety and proper material condition of aircraft; develops and administers programs for the development, testing, and evaluation of aircraft maintenance systems and methods; develops, reviews, and verifies aircraft maintenance logs, records, and reports; analyzes new developments and technological advances in aviation maintenance; administers aeronautical material procurement programs; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing, 3 in personnel supervision, 3 in aviation maintenance systems, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 3 in logistics management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in project management; if the rank of Commander has been attained, 3 additional semester hours in project management, and 3 in financial management (10/96).

LDO-636X-001

Aviation Ordnance
636X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Aviation Ordnance Limited Duty Officer from Aviation Ordnanceman (AO), Gunner's Mate Technician (GMT), or Aviation Ordnance Technician Warrant Officer (736X).

Description

Serves as an officer technical manager in the field of operations and maintenance of aviation ordnance and aircraft armament; manages and directs the activities of aviation ordnance personnel in the performance of aviation operational, test, research, and maintenance functions involving aviation ordnance and aircraft armament; establishes new aviation ordnance and armament maintenance procedures and methods; plans, organizes and directs the operation of aviation ordnance activities; provides technical assistance and advice pertaining to aviation ordnance and armament; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-636X-002

Aviation Ordnance
636X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Aviation Ordnance Limited Duty Officer from Aviation Ordnanceman (AO), Weapons Technician (WT), or Aviation Ordnance Technician Warrant Officer (736X).

Description

Serves as an officer technical manager in the field of operations and maintenance of aviation ordnance and aircraft armament; manages and directs the activities of aviation ordnance personnel in the performance of aviation operational, test, research, and maintenance functions involving aviation ordnance and aircraft armament; establishes new aviation ordnance and armament maintenance procedures and methods; plans, organizes and directs the operation of aviation ordnance activities; provides technical assistance and advice pertaining to aviation ordnance and armament; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; generates programs and uses computer programs and data to facilitate personnel and logistics management; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing, 3 in personnel supervision, 3 in interpersonal communication, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 in logistics management, and 3 for a management internship. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, organizational management, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, organizational management, or budget administration (10/96).

LDO-638X-001

Aviation Electronics
(Avionics)
638X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Avionics Limited Duty Officer from Aviation Electronics Technician (AT), Aviation Electrician's Mate (AE), Aviation Fire Control Technician (AQ), Aviation Antisubmarine Warfare Technician (AX), Tradevman (TD), or Aviation Electronics Technician Warrant Officer (738X).

Description

Serves as an officer technical manager in the field of avionics and aircraft systems operation and maintenance; organizes, manages, and directs all phases of installation, maintenance, repair, and operation of avionics equipment and other aircraft systems/components; participates in programs for the development, testing, and evaluation of equipment and systems; establishes new maintenance procedures and methods; directs the assignment of material, equipment, and systems; plans, develops, and administers training programs for systems and maintenance; writes reports and provides technical advice about aircraft systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in aviation maintenance systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in aviation maintenance management, and 3 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (1/84).

LDO-638X-002

Avionics
(Aviation Electronics)
638X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Avionics Limited Duty Officer from Aviation Electronics Technician (AT), Aviation Electrician's Mate (AE), Avionics Technician (AV), or Aviation Electronics Technician Warrant Officer (738X).

Description

Serves as an officer technical manager in the field of avionics and aircraft systems operation and maintenance; organizes, manages, and directs all phases of installation, maintenance, repair, and operation of avionic equipment and other aircraft systems/components; participates in programs for the development, testing, and evaluation of equipment and systems; establishes new maintenance procedures and methods; directs the assignment of material, equipment, and systems; plans, develops, and administers training programs for systems and maintenance; writes reports and provides technical advice about aircraft systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing, 3 in aviation maintenance systems, 3 in computer applications, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in aviation maintenance management, and 3 for a management internship. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in project management; if the rank of Commander has been attained, 3 additional semester hours in project management and 3 in financial management (10/96).

LDO-639X-001

Air Traffic Control
639X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Air Traffic Control Limited Duty Officer from Air Traffic Controller (AC) or Air Traffic Control Technician Warrant Officer (739X).

Description

Serves as an officer technical manager in the field of air traffic control; responsible for control tower operation, base operations, heliport operations, surveillance and precision approach radars, approach/departure control radars and airspace acquisition, training programs for qualification of air traffic controllers, and developing air traffic control procedures; coordinates operational procedures with FAA and US military and foreign air traffic control facilities; employs a broad knowledge of federal air regulations, terminal and enroute air traffic control procedures, air traffic control planning, Navy procedural criteria, and international civil aviation organization procedures; demonstrates knowledge of ground-to-air communications, radar operations, recording equipment, teletype and land line communications, navigational aids, and weather; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 for field experience in management, and 3 for field experience in aviation administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration. In addition, see the credit recommendation in the exhibit for the enlisted rating Air Traffic Controller (AC); grant credit for the most recent enlisted rank the individual held before progressing to Limited Duty Officer (10/85).

LDO-639X-002

Air Traffic Control
639X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Air Traffic Control Limited Duty Officer from Air Traffic Controller (AC).

Description

Serves as an officer technical manager in the field of air traffic control; responsible for control tower operations, base operations, heliport operations, surveillance and precision approach radars, approach/departure control radars and airspace acquisition, training programs for qualification of air traffic controllers, and developing air traffic control procedures; coordinates operational procedures with FAA and US military and foreign air traffic control facilities; employs a broad knowledge of federal air regulations, terminal and enroute air traffic control procedures, air traffic control planning, Navy procedural criteria, and international civil aviation organization procedures; demonstrates knowledge of ground-to-air communications, radar operations, recording equipment, teletype and landline communications, navigational aids, and weather; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing, 3 in personnel supervision, 3 in aviation maintenance, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 in logistics management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in project management; if the rank of Commander has been attained, 3 additional semester hours in project management and 3 in financial management. In addition, use the credit recommendations in the exhibit for the enlisted rating Air Traffic Controller (AC) for the most recent enlisted rank the individual held before progressing to Limited Duty Officer that do not duplicate those in this exhibit (10/96).

LDO-640X-003

Nuclear Power
640X

Exhibit Dates: 1/90–2/96.

Career Pattern

This LDO designator was formerly 615X, Nuclear Power, Surface or 625X, Nuclear Power, Submarine. May have progressed to Nuclear Power Limited Duty Officer from Electrician's Mate (EM), Electronics Technician (ET), Interior Communications Electrician (IC), Machinist's Mate (MM), or Nuclear Power Technician Warrant Officer (740X, 715X, or 725X).

Description

Serves as an officer technical manager in the repair, maintenance, and operation of naval nuclear propulsion plants, nuclear ship systems, and associated equipment; coordinates and supervises skilled craftsmen and administrative support personnel; provides technical assistance in the overhaul, refueling and decontamination of nuclear propulsion plants; monitors and supervises nuclear propulsion plant, chemical analysis, and chemistry control practices and procedures as well as quality assurance of nuclear work; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-640X-004

Nuclear Power
640X

Exhibit Dates: 3/96–Present.

Career Pattern

May have progressed to Nuclear Power Limited Duty Officer from Electrician's Mate (EM), Electronics Technician (ET), Machinist's Mate (MM), or Nuclear Power Technician Warrant Officer (740X).

Description

Serves as an officer technical manager in the repair, maintenance, and operation of naval nuclear propulsion plants, nuclear ship systems, and associated equipment; coordinates and supervises skilled craftsmen and administrative support personnel; provides technical assistance in the overhaul, refueling and decontamination of nuclear propulsion plants; monitors and supervises nuclear propulsion plant, chemical analysis, and chemistry control practices and procedures as well as quality assurance of nuclear work; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, directs, and evaluates activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in management information systems, 3 in quality control systems, 3 in nuclear power systems, and 3 in regulatory compliance. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/96).

LDO-641X-001

Administration
641X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Administration Limited Duty Officer from Lithographer (LI), Journalist (JO), Postal Clerk (PC), Personnelman (PN), Yeoman (YN), Legalman (LN), Religious Program Specialist (RP), or Ship's Clerk Warrant Officer (741X).

Description

Serves as an officer technical manager in the fields of naval and personnel administration; directs administrative and personnel offices; demonstrates a broad knowledge of Navy department/fleet staff organization and regulations; personnel responsibilities include recruitment, selection, promotion, transfer, career development, training, job analysis, and discipline; administrative tasks include office organization and procedures, legal work, budget and fiscal control, space planning, work progress reporting, information dissemination, public relations activities, and liaison with other military services; responsible for the preparation, publication, and distribution of manuals, handbooks, reports, newspapers, and correspondence; duties vary depending on technical experience and the size of the organization; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in office management, and 3 in human relations. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in management problems, 6 for field experience in management, and 3 in principles of management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (11/83).

LDO-641X-002

Administration
641X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Administration LDO from Ship's Clerk Warrant Officer (741X), or one of the following enlisted ratings: Lithographer (LI), Journalist (JO), Postal Clerk (PC), Personnelman (PN), Yeoman (YN), Legalman (LN), or Religious Program Specialist (RP).

Description

Serves as an officer technical manager and performs duties in the areas of administration, personnel relations, manpower planning, organization planning, public relations, personnel assignments, training, postal functions, and printed materials; has a broad knowledge of Navy personnel and administrative procedures, regulations, and directives; writes technical reports and personnel evaluations; participates in the Total Quality Leadership (TQM) program.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in public relations management, and 3 for field experience in management. If the rank of Lieutenant Commander has been attained, add 3 semester hours for field experience in management. If the rank of Commander has been attained, add 3 semester hours in management problems (2/96).

LDO-642X-001

Data Processing
642X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Data Processing Limited Duty Officer from Data Processing Technician (DP), Data Systems Technician (DS), or Data Processing Technician Warrant Officer (742X).

Description

Serves as an officer technical specialist in the field of automatic data processing utilizing both electronic digital computer and electronic accounting machine equipment; administers the operation and maintenance of data processing installations; programs, debugs, and operates interactive and batch programs; advises in the selection of equipment; develops policy for job processing priorities; ensures data integrity and computer security; develops processing evaluation methods, work standards, and procedures manuals for programmers and analysts; conducts training for staff and for system users; analyzes costs and prepares budget estimates for computer operations; reviews equipment design and updates hardware in use; provides the leadership necessary to guide personnel and develop individual responsibility; duties vary depending on the size of the organization and the specific computer installation; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in college algebra, and 1 in statistics. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 in principles of management, 3 for field experience in management, and 5 for field experience in data processing. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (11/83).

LDO-642X-002

Data Processing
642X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Data Processing Limited Duty Officer from Data Processing Technician (DP), Data Systems Technician (DS), or Data Processing Technician Warrant Officer (742X).

Description

Serves as an officer technical specialist in automatic data processing and digital communication technology; provides direct supervision of programmers and telecommunications personnel concerned with the installation, operation, and maintenance of data systems including hardware and software operating and application programs; develops local area network design specifications and connections to Wide Area Networks including system requirements, band width specifications, and technical requirements; provides system analysis and evaluation and system administration including beta testing, troubleshooting, traffic control, and systems training; develops policy for data processing and communication priorities, evaluation methods, work standards, and procedure manuals for technicians; provides leadership, professional counseling, and career guidance for team members; prepares technical reports and provides advice to the command on data processing and communication matters; prepares budgets and performs cost analysis for computer and communication operations; supervises data processing and communication and needs assessment for personnel, logistics, intelligence and operational requirements for tactical and non-tactical operations; ensures data integrity, system security, inventory control, and Total Quality Management; maintains records and documentation; prepares personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in computer programming in UNIX and C++, and 3 in technical report writing. In the upper-division baccalaureate category, 3 semester hours in computer systems and organization, 3 in local area networks, 3 in network management, 3 in digital telecommunications analysis, 3 in principles of supervision, 3 for field experience in management, and 3 in management problems; if the rank of Lieutenant or Lieutenant Commander has been attained, 3 additional semester hours for project management; if the rank of Commander or Captain has been attained, 3 additional semester hours for budget administration (2/96).

LDO-643X-001

Bandmaster
643X

Exhibit Dates: 1/90–Present.

Career Pattern

May have progressed to Bandmaster Limited Duty Officer from Musician (MU) or Bandmaster Warrant Officer (743X).

Description

Serves as a specialist in the fields of music and management; responsible for equipment, personnel, budgets, public relations, and operations; employs a broad knowledge of instrumental and vocal techniques, band administration, musical techniques, theory, and literature; may serve as program managers, leaders of Navy bands, or officers-in-charge of Navy bands, providing information, administration, and assistance in music matters.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of public relations and 3 in operational management. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in financial and budget management, 3 in advanced conducting, and 3 in score reading and analysis. If the rank of Lieutenant Commander has been attained, add 3 semester hours in advanced management problems; if the rank of Commander has been attained, add 6 semester hours in advanced management problems (2/86).

LDO-644X-001

Cryptology
644X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Cryptology Limited Duty Officer from Cryptologic Technician, Administrative (CTA); Cryptologic Technician, Interpretive (CTI); Cryptologic Technician, Maintenance (CTM); Cryptologic Technician, Communications (CTO); Cryptologic Technician, Collection (CTR); Cryptologic Technician, Technical (CTT); or Cryptologic Technician Warrant Officer (744X).

Description

Serves as an officer technical specialist in all phases of operations conducted by the Naval Security Group Command, including signals intelligence, signals security, and electronic warfare; responsible for administration, personnel support, electronic maintenance, communications, and technical research in support of the operating forces and the national cryptologic effort; plans and manages, in accordance with appropriate directives, the employment of equipment and manpower resources; has managerial responsibility for the installation and maintenance of electrical, electromechanical, and electronic equipment and the conduct of communications, administrative, or communications security functions.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (2/86).

LDO-644X-002

Cryptology
644X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Cryptology LDO from Cryptologic Technician Warrant Officer (744X), or Cryptologic Technician (CT).

Description

Serves as an officer technical manager in all phases of operations conducted by the Naval Security Group Command, including signals intelligence and signals security has responsibility for administration, personnel support, electronic maintenance, communications, and technical research in support of the operating forces and the national cryptologic effort; plans and manages, in accordance with appropriate directives, the employment of equipment and manpower resources; has managerial responsibility for the installation and maintenance of electrical, electromechanical, and electronic equipment and the conduct of communications, administrative, and communications security functions.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical writing and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in management problems. If the rank of Commander has been attained, 3 additional semester hours in systems management (2/96).

LDO-645X-001

Intelligence
645X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Intelligence Limited Duty Officer from Intelligence Specialist (IS) or Intelligence Technician Warrant Officer (745X).

Description

Serves as an officer technical manager responsible for the material readiness of intelligence collection equipment, publications, and supplies; supervises enlisted intelligence specialists in intelligence collection, processing, dissemination duties and in the preparation of intelligence materials for briefings.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and, based on institutional evaluation of the student's experiences, an additional 3 semester hours in any of the following areas: computer science, cultural geography, political science, or principles of cartography. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (4/86).

LDO-645X-002

Intelligence
645X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Intelligence Limited Duty Officer from Intelligence Specialist (IS) or Intelligence Technician Warrant Officer (745X).

Description

Serves as an officer technical manager responsible for the material readiness of intelligence collection equipment, publications, and supplies; supervises enlisted intelligence specialists in intelligence collection, processing, dissemination duties and in the preparation of intelligence materials for briefings.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in compressed graphic communication and analysis, 3 in personnel supervision, and, based on institutional evaluation of the student's experiences, an additional 3 semester hours in any of the following areas: computer science, cultural geography, political science, or principles of cartography. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, 3 for field experience in management, and 3 in any of the following areas: project management, leadership, or budget administration. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-646X-001

Meteorology/Oceanography
646X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Meteorology/Oceanography Limited Duty Officer from Aerographer's Mate (AG) or Aerographer Warrant Officer (746X).

Description

Serves as an officer technical manager, providing meteorological and oceanographic support for fleet operations and for planning and directing various activities within the Naval Oceanography Command; trains military and civilian meteorological/oceanographic personnel in the use and operational maintenance of meteorological and oceanographic equipment; trains and supervises Navy weather observers and forecasters; performs regional coordination for operational and administrative matters within regional areas of responsibility; manages the Meteorological and Oceanographic Equipment Program.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (2/86).

LDO-646X-002

Meteorology/Oceanography
646X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Meteorology/Oceanography Limited Duty Officer from Aerographer's Mate (AG) or Aerographer Warrant Officer (746X).

Description

Serves as an officer technical manager, providing meteorological and oceanographic support for fleet operations and for planning and directing various activities within the Naval Oceanography Command; trains military and civilian meteorological/oceanographic personnel in the use and operational maintenance of meteorological and oceanographic equipment; trains and supervises Navy weather observers and forecasters; performs regional coordination for operational and administrative matters within regional areas of responsibility; manages the Meteorological and Oceanographic Equipment Program.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, 3 in electronics/computer systems integration, and 6 for field experience in management. If the rank of Lieutenant has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Lieutenant Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 9 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-647X-001

Photography
647X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Photography Limited Duty Officer from Illustrator Draftsman (DM), Intelligence Specialist (IS), Journalist (JO), Photographer's Mate (PH), or Photography Warrant Officer (747X).

Description

Serves as an officer technical manager responsible for all photographic, optical, digital, electronic, and other imaging systems and equipment, including still, motion picture, and video systems used in aerial, surface, and subsurface imaging; plans and manages the operation of imaging commands and activities, combat camera groups, and aerial reconnaissance imaging systems; develops, reviews, and maintains support facilities which deal with photographic and image recording requirements; provides technical advice and assistance on all photographic and other imaging support matters to commanders and subordinate units; employs an extensive photographic background and technical knowledge in all phases of imaging theory and technology, equipment, support equipment, image recording, and processing and the application and employment of imaging systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, and 3 in budget management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/86).

LDO-647X-002

Photography
647X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Photography LDO from Photography Warrant Officer (747X), or one of the following enlisted ratings: Illustrator Draftsman (DM), Intelligence Specialist (IS), Journalist (JO), or Photographer's Mate (PH).

Description

Serves as an officer technical manager responsible for all chemical, electronic and digital imaging systems and equipment, including still photography and video systems used in aerial, surface, and subsurface imaging; plans and manages the operation of imaging commands and activities, combat camera groups, and aerial reconnaissance imaging systems; develops, reviews, and maintains support facilities which deal with photographic and image recording requirements; provides technical advice and assistance on all photographic and other imaging support matters to commanders and subordinate units; employs an extensive photographic background and technical knowledge in all phases of imaging theory and technology, equipment, support equipment, image recording, and processing and the application and employment of imaging systems; has responsibility for long range planning and implementation of imaging detachments for routine public and command information functions, operational documentation support, intelligence analysis and special assignments; manages personnel staffing and assignments, budgeting, training and the obtaining supplies and equipment for all imaging support of the assigned command; supervises staff; writes evaluation reports; conducts personnel counseling.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, and 3 in budget management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: management problems, human resources management, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: strategic planning, systems management, business organization and management (2/96).

LDO-648X-001

Explosive Ordnance Disposal
648X

Exhibit Dates: 1/90–4/92.

Career Pattern

May have progressed to Explosive Ordnance Disposal Limited Duty Officer from any enlisted rating or from Warrant Officer Explosive Ordnance Disposal Technician (748X); must be qualified in Explosive Ordnance Disposal (EOD).

Description

Serves as an officer technical manager in the methods of detection, identification, field evaluation, rendering safe, recovery, and disposal of all types of US and foreign ordnance, explosives, and demolition materials; provides technical escort for transportation/movement, detoxification, and disposal of chemical, biological, toxicological, and etiological agents; conducts technical evaluations of ordnance for intelligence information through disassembly and stripping; may perform airborne techniques, and provide US Secret Service with explosive ordnance disposal support for presidential and other VIP protection as directed; provides fleet training services on emergency distract procedures and detection and monitoring of nuclear, biological, or chemical agents; provides technical guidance and training assistance in minor underwater repair, hull inspection, and propeller replacement; plans and supervises the activities of personnel engaged in diving and explosive ordnance disposal operations, involving all types of US and foreign munitions, conventional and improvised; supervises the repair and modification of explosive ordnance disposal tools, equipment, and material; supervises the stowage, issue, procurement, security, and preservation of explosive ordnance disposal equipment, materials, and components; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (10/85).

LDO-648X-002

Explosive Ordnance Disposal
648X

Exhibit Dates: 5/92–Present.

Career Pattern

May have progressed to Explosive Ordnance Disposal Limited Duty Officer from any enlisted rating or from Warrant Officer Explosive Ordnance Disposal Technician (748X); must be qualified in Explosive Ordnance Disposal (EOD).

Description

Serves as an officer technical manager in the methods of detection, identification, field evaluation, rendering safe, recovery, and disposal of all types of US and foreign ordnance, explosives, and demolition materials; provides technical escort for transportation/movement, detoxification, and disposal of chemical, biological, toxicological, and etiological agents; conducts technical evaluations of ordnance for intelligence information through disassembly and stripping; may perform airborne techniques, and provide US Secret Service with explosive ordnance disposal support for presidential and other VIP protection as directed; provides fleet training services on emergency distract procedures and detection and monitoring of nuclear, biological, or chemical agents; provides technical guidance and training assistance in minor underwater repair, hull inspection, and propeller replacement; plans and supervises the activities of personnel engaged in diving and explosive ordnance disposal operations, involving all types of US and foreign munitions, conventional and improvised; supervises the repair and modification of explosive ordnance disposal tools, equipment, and material; supervises the stowage, issue, procurement, security, and preservation of explosive ordnance disposal equipment, materials, and components; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates; performs all administrative functions using computer software.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in medical terminology and first aid, 3 in applied physics, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management information systems, 4 in management problems, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (5/96).

LDO-649X-001

Security
649X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Security Limited Duty Officer from Master-At-Arms (MA) or Security Technician Warrant Officer (749X).

Description

Serves as an officer technical manager in matters of law enforcement, physical security, and corrections; plans, organizes and supervises physical security programs and activities aboard ship; establishes and maintains access/egress system, providing for detection/prevention of sabotage and theft; plans and directs law enforcement programs including aggressive contraband control initiatives; supervises operation of brigs afloat; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of security organization and administration and 3 in personnel distribution and deployment. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in budget administration, and 6 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (12/85).

LDO-649X-002

Security
649X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Security Limited Duty Officer from Master-At-Arms (MA) or Security Technician Warrant Officer (749X).

Description

Serves as an officer technical manager and department head in all activities of law enforcement, physical security, and corrections; plans, organizes and supervises physical security programs and activities aboard ship; establishes and maintains access/egress system, providing for detection/prevention of sabotage, terrorism, and theft; plans and directs law enforcement programs including aggressive contraband control and general law enforcement duties; supervises operation of brigs afloat; formulates, directs, and evaluates training programs; writes reports and provides technical assistance and advice; plans, supervises, and directs activities of subordinates; inspects facilities; has responsibility for substance abuse screening; prepares computerized crime reports; holds fiscal responsibilities for entire security/enforcement requirements; establishes inventories and loss control procedures; maintains liaison with Naval Investigative Services and civilian law enforcement agencies.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision, 3 in principles of management, 3 in security organization/administration (principles), and 3 in loss control and prevention. In the upper-division baccalaureate category, 3 semester hours in fiscal administration, 6 for field experience in management, and 3 in security/enforcement administration. If the rank of Lieutenant Commander or Commander has been attained, 6 additional semester hours for field experience in organizational management (2/96).

LDO-651X-001

Supply (SC)
(Supply Corps)
651X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Supply Corps Limited Duty Officer from Aviation Storekeeper (AK), Disbursing Clerk (DK), Mess Management Specialist (MS), Ship's Serviceman (SH), Storekeeper (SK), Supply Corps Warrant Officer (751X), or Food Service Warrant Officer (752X).

Description

Serves as an officer technical manager in the field of supply, including fiscal accounting and disbursing, material distribution and control, food service, ships' exchanges, and commissary stores; directs and administers supply activities; interprets department regulations and determines policies and procedures; responsible for the accounting and disbursing of funds and the distribution of supplies; develops and maintains proper budgeting and fiscal policies; directs stock accounting system and inventory control methods and systems; disposes of excess and obsolete stock; stores and distributes material; utilizes a broad knowledge of logistics procedures, transportation systems, distribution concepts, budgeting and accounting policies, retail operations, inventory control techniques, and material management.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget administration, and 3 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/86).

LDO-651X-002

Supply Corps (SC)
651X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Supply Corps LDO from Supply Corps Warrant Officer (751X), or one of the following enlisted ratings: Aviation Storekeeper (AK), Disbursing Clerk (DK), Ship's Serviceman (SH), or Storekeeper (SK).

Description

Serves as supply officer or technical manager in the field of supply; directs and administers supply activities and determines policy and procedures. Duties include: fiscal accounting and control; food service facilities; and operation of Bachelor officer and enlisted quarters, ship's stores, and Navy exchanges. Responsibilities include: accounting and dispersing of funds; monitoring the distribution of supplies; developing and recommending supply budgets; training, supervising, counseling, and evaluating subordinates; writing technical reports; purchasing food, special clothing, and materials ranging from five to fifty million dollars per fiscal period; directing stock accounting systems; disposing of excess and obsolete stock; and managing the storage and distribution of material; has a broad knowledge of logistic procedures, transportation systems, retail operations, inventory methods and controls, and material management.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical writing and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget administration, and 3 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or material management; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or material management (2/96).

LDO-653X-001

Civil Engineer Corps (CEC)
653X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Civil Engineer Corps Limited Duty Officer from Builder (BU), Construction Electrician (CE), Construction Mechanic (CM), Illustrator Draftsman (DM), Engineering Aid (EA), Equipment Operator (EO), Steelworker (SW), Utilitiesman (UT), Master Chief Equipmentman (EQCM), or Civil Engineer Corps Warrant Officer (753X).

Description

Serves as an officer technical manager in the field of horizontal and vertical construction, facilities maintenance, utilities, and automotive and construction equipment; plans, coordinates, directs, and supervises the technical, operational, training, and administrative responsibilities of naval construction force units; assists in the planning, scheduling, and operational and technical responsibilities of public works departments within the Navy shore establishment; supervises personnel engaged in horizontal and vertical construction, in maintenance and repair of buildings, airfields, hardstands, waterfront structures, utility systems, and in the operation, testing, maintenance, and repair of allied plants and automotive and construction equipment.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semesters hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget management, and 3 for field experience in management. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: leadership, project management, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (3/86).

LDO-653X-002

Civil Engineer Corps
653X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Civil Engineer Corps Limited Duty Officer from Builder (BU); Construction Electrician (CE); Construction Mechanic (CM); Illustrator Draftsman (DM); Engineering Aid (EA); Equipment Operator (EO); Steelworker (SW); Utilitiesman (UT); Master Chief Equipmentman (EQCM); or Civil Engineer Corps Warrant Officer (753X).

Description

Serves as an officer technical manager in the field of horizontal and vertical construction, facilities maintenance, utilities, and automotive and construction equipment; plans, coordinates, directs, and supervises the technical, operational, training, and administrative responsibilities of naval construction force units; assists in the planning, scheduling, and operational and technical responsibilities of public works departments within the Navy shore establishment; supervises individuals engaged in horizontal and vertical construction, in maintenance and repair of buildings, airfields, waterfront structures, utility systems, and in the operation, testing, maintenance, and repair of public works plants and automotive and construction equipment.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semesters hours in construction estimating, 2 in facility maintenance management, 3 in introduction to computers, 3 in construction scheduling, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in construction project management, 3 in management problems, 3 in budget management, and 6 for field experience in management (5/96).

LDO-655X-001

Law
655X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Limited Duty Officer Law from Legalman (LN).

Description

Serves as an officer technical manager in the legal field, specializing in the administration of legal services; advises and assists commanding officers in matters pertaining to military law and the administration of military justice;

directs or conducts investigations; drafts charges; makes recommendations concerning forum selection for the disposition of offenses; serves as trial counsel and conducts prosecutions of persons brought to trial by special court-martial; prepares records of proceedings and post trial actions; acts as summary courts-martial; conducts Article 32, Uniform Code of Military Justice investigations; acts as recorder for administrative discharge boards and supervises personnel performing legal duties; performs other nonlawyer paralegal functions, including claims, civilian personnel matters, and financial and budgetary matters; provides legal assistance; plans and manages the employment of equipment and manpower.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in case analysis and reasoning; 3 in law office management, 3 for field experience in management, 3 in trial and case preparation, and credit in legal research on the basis of institutional evaluation. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in any of the following areas: project management, leadership, or budget administration; if the rank of Commander has been attained, 6 additional semester hours in any of the following areas: project management, leadership, or budget administration (12/85).

LDO-655X-002

Law
655X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Law LDO from Legalman (LN).

Description

Serves as an officer technical manager in the legal field, specializing in the administration of legal services; advises and assists commanding officers in matters pertaining to military law and the administration of military justice; directs or conducts investigations; drafts charges; makes recommendations concerning forum selection for the disposition of offenses; serves as trial counsel and conducts prosecutions of persons brought to trial by special court-martial; prepares records of proceedings and post trial actions; acts as summary courts-martial; conducts Article 32, Uniform Code of Military Justice investigations; acts as recorder for administrative discharge boards and supervises personnel performing legal duties; performs other paralegal functions, including claims, civilian personnel matters, and financial and budgetary matters; provides legal research and legal assistance; plans and manages the employment of equipment and legal manpower.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in principles of law (introduction), 3 in basic investigations, and 6 in paralegal studies. In the upper-division baccalaureate category, 3 semester hours in case analysis and reasoning, 3 in law office management, 3 for legal case management, 3 in trial and case preparation, and 3 in legal research. If the rank of Lieutenant Commander has been attained, 3 additional semester hours in organizational management; if the rank of Commander has been attained, 6 additional semester hours in organizational management (2/96).

Navy Warrant Officer Exhibits

NWO-711X-001

BOATSWAIN (SURFACE)
711X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Boatswain (Surface) Warrant Officer from Boatswain's Mate (BM), Quartermaster (QM), or Signalman (SM).

Description

Serves as an officer technical specialist in the field of seamanship and navigation; plans, supervises, and directs activities of deck and navigation personnel in performance of operational and maintenance functions; plans, develops, and administers deck navigation training programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns and coordinates activities of personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in general ship operations. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (5/96).

NWO-711X-002

SURFACE BOATSWAIN
711X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Boatswain (Surface) Warrant Officer from Boatswain's Mate (BM), Quartermaster (QM), or Signalman (SM).

Description

Serves as an officer technical specialist in the field of seamanship and navigation; plans, supervises, and directs activities of deck and navigation personnel in performance of operational and maintenance functions; plans, develops, and administers deck navigation training programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns duties and coordinates activities.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in general ship operations. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management information systems, 3 in management problems, and 3 for field experience in management (5/96).

NWO-712X-001

OPERATIONS TECHNICIAN SURFACE OPERATIONS TECHNICIAN
(Operations Technician (Surface))
712X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Operations Technician (Surface) Warrant Officer from Electronics Warfare Technician (EW), Operations Specialist (OS), Ocean Systems Technician (OT), Quartermaster (QM), Radioman (RM), Signalman (SM), or Sonar Technician (ST).

Description

Serves as an officer technical specialist in the operation, employment, and application of techniques, equipment, systems, and procedures in operations and communications; supervises and trains personnel in the operation and maintenance of operations and communications equipment and systems; plans, directs, and controls operations and communications activities; advises and assists commands in the above areas and in the employment and utilization of associated facilities and installations.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (3/85).

NWO-712X-002

SURFACE OPERATIONS TECHNICIAN
712X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Surface Operations Technician Warrant Officer from Electronics Warfare Technician (EW), Operations Specialist (OS), Ocean Systems Technician (OT), or Sonar Technician, Surface (STG).

Description

Serves as an officer technical specialist in the operation, employment, and application of techniques, equipment, systems, and procedures in operations and communications; supervises and trains staff in the operation and maintenance of operations and communications equipment and systems; plans, directs, and controls operations and communications activities; advises and assists commands in the above areas and in the employment and utilization of associated facilities and installations.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, and 3 for field experience in management (5/96).

NWO-713X-003

ENGINEERING TECHNICIAN (SURFACE)
713X

Exhibit Dates: 1/90–2/96.

Career Pattern

May have progressed to Engineering Technician (Surface) Warrant Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician, Electrical (GSE); Gas Turbine System Technician, Mechanical (GSM); Instrumentman (IM); Interior Communications Electrician (IC); Machinery Repairman (MR); Machinist's Mate (MM); Opticalman (OM); or Precision Instrumentman, Master Chief (PICM).

Description

Serves as an officer technical specialist in ship's machinery, electrical power, lighting, interior communications systems, maintenance of optical equipment, instruments, and office machinery; supervises and trains personnel in the operation and maintenance of main propulsion systems (gas turbine, diesel, and steam), refrigeration systems, fuel systems, and shipboard electrical systems; analyzes problems with equipment and operations, finds solutions, and takes corrective action; has knowledge of supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management (10/84).

NWO-713X-004

ENGINEERING TECHNICIAN (SURFACE)
713X

Exhibit Dates: 3/96–Present.

Career Pattern

May have progressed to Engineering Technician (Surface) Warrant Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician (GS); Interior Communications Electrician (IC); or Machinist's Mate (MM).

Description

Serves as an officer technical specialist in ship's machinery, electrical power, lighting, interior communications systems, maintenance of optical equipment, instruments, and office machinery; supervises, trains, and evaluates personnel in the operation and maintenance of main propulsion systems (gas turbine, diesel, and steam), refrigeration systems, fuel systems, and shipboard electrical systems; analyzes problems with equipment and operations, finds solutions, and takes corrective action; has exercised supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice; applies many elements of total quality management and quality assurance; uses computerized management information systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in management information systems, and 3 in quality control systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management (3/96).

NWO-714X-003

Repair Technicians (Surface)
714X

Exhibit Dates: 1/90–10/97.

Career Pattern

May have progressed to Repair Technician (Surface) Warrant Officer from Hull Maintenance Technician (HT), Molder (MT), or Patternmaker (PM).

Description

Serves as officer technical specialist in ship repair and maintenance, damage control, and fire fighting procedures, techniques, and equipment; supervises and trains personnel whose duties include electric arc welding, oxyacetylene welding and cutting, woodworking, metalworking, boat repairs, foundry operations, patternmaking, piping and drainage, and nuclear, biological, and chemical warfare defense; analyzes problems with equipment and operations, finds solutions, and takes corrective action; has knowledge of supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management (10/84).

NWO-714X-004

Surface Repair Technician
714X

Exhibit Dates: 11/97–Present.

Career Pattern

May have progressed to Surface Repair Technician Warrant Officer from the following ratings: ML (Molder), PM (Patternmaker), HT (Hull Maintenance Technician), DC (Damage Controlman), OM (Opticalman), IM (Instrumentman), MR (Machinery Repairman).

Description

Serves as officer technical specialist in ship repair and maintenance, damage control, and fire fighting procedures, techniques, and equipment; supervises and provides training in electric arc welding, oxyacetylene welding and cutting, woodworking, metalworking, boat repairs, piping and drainage, and biological, chemical, and radiological warfare defense; analyzes problems with equipment and operations, finds solutions, and takes corrective action; applies knowledge of supervision and training, computer skills, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget management, 3 in industrial management, and 3 for field experience in management (11/97).

NWO-715X-002

Special Warfare Technician
715X

Exhibit Dates: 3/90–Present.

Career Pattern

May have progressed to Special Warfare Technician Warrant Officer from any rating qualified in Naval Special Warfare.

Description

Serves as an officer technical specialist in the maintenance of equipment and the administration of ordnance, engineering, swimming, and diving divisions, and overall sea, air, and land (SEAL) operations. May serve as training officer, operations officer, and instructor in an operation or staff position.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in physical education, 3 in applied computer operation, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in management problems and 3 for field experience in management (5/96).

NWO-716X-002

Surface Ordnance Technician
716X

Exhibit Dates: 1/90–1/98.

Career Pattern

May have progressed to Surface Ordnance Technician Warrant Officer from Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Gunner's Mate (GM); Gunner's Mate, Guns (GMG); Gunner's Mate, Missiles (GMM); Gunner's Mate Technician (GMT); Missile Technician (MT); or Torpedoman's Mate (TM).

Description

Serves as an officer technical specialist in ballistic missile weapons systems, including missile, missile launch, missile fire control and warhead subsystems; trains and supervises personnel engaged in assembly, installation, operations, testing, maintenance and repair of ballistic missile systems; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (10/85).

NWO-716X-003

Surface Ordnance Technician
716X

Exhibit Dates: 2/98–Present.

Career Pattern

May have progressed to Surface Ordnance Technician Warrant Officer from Fire Control Technician (FT); Fire Control Technician, Gun Fire Control (FTG); Gunner's Mate (GM); Gunner's Mate, Guns (GMG); Gunner's Mate, Missiles (GMM); Missile Technician (MT); Torpedoman's Mate (TM); or Mineman (MN).

Description

There are two main areas of focus under the surface ordnance technician warrant officer: weapons system control (electronics) and logistics. Under the weapons system control focus this warrant officer functions as the senior subject matter expert for the Aegis system; is responsible for the operational integration of the weapons system and the training of operational personnel (including shipboard tactical action officers). In the logistics focus, functions as an ordnance supply officer; is responsible for the administration, disposition and appropriate record keeping of hazardous material; functions as the ship's safety officer; is responsible for ship security on supply ships that operate to resupply other U.S. Navy vessels with naval ordnance.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for hazardous materials and safety. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems for curriculum design instruction, and 2 for U.S. Navy specific computer programming (2/98).

NWO-718X-001

Electronics Technician (Surface)
718X

Exhibit Dates: 1/90–2/96.

Career Pattern

May have progressed to Electronics Technician (Surface) Warrant Officer from Data Systems Technician (DS); Electronics Technician (ET); Electronics Warfare Technician (EW); Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control Technician (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Operations Specialist (OS); Ocean Systems Technician (OT); or Sonar Technician (ST).

Description

Serves as an officer technical specialist in the field of non-nuclear electronics, including electronic theory and equipment and systems used in navigation; directs the detection, tracking, recognition, and identification of ship, aircraft, and missiles; supervises the installation, operation, and maintenance of all non-nuclear electronics systems installed in units of the surface force; supervises those persons involved in installing, modifying, testing, calibrating, maintaining, and repairing electronic equipment; serves as expert troubleshooter who analyzes problems with equipment and operations, finds solutions, and takes corrective action; has knowledge of supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice on electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, and 2 for field experience in electronics (1/84).

NWO-718X-002

Electronics Technician (Surface)
718X

Exhibit Dates: 3/96–Present.

Career Pattern

May have progressed to Electronics Technician (Surface) Warrant Officer from Data Systems Technician (DS); Electronics Technician (ET); Electronics Warfare Technician (EW); Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control Technician (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Controlman (FC)Fire Control Technician, Surface Missile Fire Control (FTM); Operations Specialist (OS); or Ocean Systems Technician (OT).

Description

Serves as an officer technical specialist in the field of non-nuclear electronics, including electronic theory and equipment and systems used in navigation; directs the detection, tracking, recognition, and identification of ship, aircraft, and missiles; supervises the installation, operation, and maintenance of all non-nuclear electronics systems installed in units of the surface force; supervises those persons involved in installing, modifying, testing, calibrating, maintaining, and repairing electronic equipment; serves as expert troubleshooter who analyzes problems with equipment and operations, finds solutions, and takes corrective action; has knowledge of supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice on electronic systems; uses current software, e.g., word processing, spread sheets, and military-specific application packages.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, and 2 for field experience in applications software (3/96).

NWO-719X-002

Communications Technician
719X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Communications Technician Warrant Officer from Radioman (RM).

Description

Serves as an officer technical specialist in the operation, employment, and application of techniques, equipment, systems, and procedures in surface communications and has practical experience in these areas; assists and advises commands in communications planning, direction and control, and in the employment and utilization of associated facilities and installations; organizes, supervises, and directs performance of communication personnel; assists in administration of onboard training programs, facilities, and services; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (10/85).

NWO-719X-003

Surface Communications Technician
719X

Exhibit Dates: 5/96–Present.

Career Pattern

Progressed to Surface Communications Technician Warrant Officer from Radioman (RM).

Description

Serves as an officer technical specialist in the operation, employment, and application of techniques, equipment, systems, and procedures in surface communications and has practical experience in these areas; assists and advises commands in communications planning, direction and control, and in the employment and utilization of associated facilities and installations; organizes, supervises, and directs performance of communication personnel; assists in administration of onboard training programs, facilities, and services; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel; uses managerial information systems to perform job responsibilities.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, 3 in budget management, and 3 for field experience in management (5/96).

NWO-720X-001

Diving Officer
720X

Exhibit Dates: 3/90–Present.

Career Pattern

May have progressed to Diving Officer from any rating; must be qualified and designated a master, saturation, or first class diver.

Description

Serves as a technical specialist in the fields of underwater ship's husbandry, ship salvage, and undersea research and developments with practical experience in one or more of these areas; plans, supervises, and directs the activities of enlisted divers in the performance of diving duties; develops, coordinates, and administers diving training programs; assigns and coordinates the activities of all personnel, divers and non-divers, under their command; if assigned to auxiliary ships of the surface and submarine fleets, they may also perform collateral duty in the ship's repair department when assigned by the commanding officer; may serve as basic diving officers, mix-and-gas diving officers, salvage diving officers, and deep sea diving officers, and as diving instructors at diving training centers.

Recommendation

In the lower-division baccalaureate/associate degree category, 1 semester hour in introduction to computers, 3 in technical communications, 3 in personnel supervision, and 2 in physical education (diving). In the upper-division baccalaureate category, 2 semester hours in management information systems, 3 for field experience in diving, 3 in principles of management, 3 in management problems, 3 for field experience in management, and 3 in medical technology and first aid (5/96).

NWO-721X-002

Boatswain (Submarine)
721X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Boatswain (Submarine) Warrant Officer from Boatswain's Mate (BM), Quartermaster (QM), or Signalman (SM).

Description

Serves as an officer technical specialist in the field of seamanship, navigation, and deep sea diving; plans, supervises, and directs activities of deck, navigation, and deep sea diving personnel in performance of operational and maintenance functions; plans, develops, and administers deck, navigation, and diver programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns and coordinates activities of personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in general ship operations. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (3/85).

NWO-721X-003

SUBMARINE BOATSWAIN
721X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Boatswain (Submarine) Warrant Officer from Boatswain's Mate (BM), Quartermaster (QM), or Signalman (SM).

Description

Serves as an officer technical specialist in the field of seamanship, navigation, and deep sea diving; plans, supervises, and directs activities of deck, navigation, and deep sea diving personnel in performance of operational and maintenance functions; plans, develops, and administers deck, navigation, and diver programs; assists in organizing, scheduling, and supervising seamanship and navigation exercises and drills; assigns duties and coordinates activities.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in introduction to computers, and 3 for field experience in general ship operations. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 4 for field experience in celestial navigation, and 3 for field experience in management (5/96).

NWO-723X-002

ENGINEERING TECHNICIAN (SUBMARINE)
723X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Engineering Technician (Submarine) Warrant Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician, Electrical (GSE); Gas Turbine System Technician, Mechanical (GSM); Instrumentman (IM); Interior Communications Electrician (IC); Machinery Repairman (MR); Machinist's Mate (MM); Opticalman (OM); or Precision Instrumentman, Master Chief (PICM).

Description

Serves as an officer technical specialist in ship's machinery, electrical power, lighting, interior communications systems, maintenance of optical equipment, instruments, and office machinery; supervises and trains personnel in the operation and maintenance of main propulsion systems (gas turbine, diesel, and steam), refrigeration systems, fuel systems, and shipboard electrical systems; analyzes problems with equipment and operations, finds solutions, and takes corrective action; has knowledge of supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management (10/84).

NWO-723X-003

SUBMARINE ENGINEERING TECHNICIAN
723X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Submarine Engineering Technician Warrant Officer from Boiler Technician (BT); Electrician's Mate (EM); Engineman (EN); Gas Turbine System Technician (GS); Interior Communications Electrician (IC); or Machinist's Mate (MM).

Description

Serves as an officer technical specialist in ship's machinery, electrical power, lighting, interior communications systems, maintenance of optical equipment, instruments, and office machinery; supervises and trains staff in the operation and maintenance of main propulsion systems (gas turbine, diesel, and steam), refrigeration systems, fuel systems, and shipboard electrical systems; analyzes problems with equipment and operations, finds solutions, and takes corrective action; initiates and monitors training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice; uses computer software.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, and 4 for field experience in management (5/96).

NWO-724X-003

REPAIR TECHNICIAN (SUBMARINE)
724X

Exhibit Dates: 1/90–10/97. Effective 10/97, Warrant Officer designator 724X was discontinued.

Career Pattern

Progressed to Repair Technician (Submarine) Warrant Officer from Hull Maintenance Technician (HT).

Description

Serves as an officer technical specialist in the maintenance and repair of submarine hull, structure, and associated fittings; supervises and trains personnel whose duties involve woodworking, metalworking, foundry operations, patternmaking, piping and drainage, plate welding, pressure hull welding, high-pressure pipe welding, nuclear power plant component welding, nondestructive test inspections, visual test, magnetic particle test, penetrant test, and ultrasonic test operations and radiography; analyzes problems with equipment and operations, finds solutions, and takes corrective action; applies knowledge of supervision and training, personnel policies, legal procedures, leadership and management techniques, and communication methods; writes reports and provides technical advice.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 4 for field experience in management (10/84).

NWO-726X-001

SUBMARINE ORDNANCE TECHNICIAN
726X

Exhibit Dates: 1/90–1/98.

Career Pattern

May have progressed to Submarine Ordnance Technician Warrant Officer from Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Gunner's Mate (GM); Gunner's Mate, Guns (GMG); Gunner's Mate Missiles (GMM); Gunner's Mate Technician (GMT); Missile Technician (MT); or Torpedoman's Mate (TM).

Description

Serves as an officer technical specialist in ballistic missile weapons systems, including missile, missile launch, missile fire control, and warhead subsystems; trains and supervises personnel engaged in assembly, installation, operation, testing, maintenance, and repair of ballistic missile systems; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (10/85).

NWO-726X-002

SUBMARINE ORDNANCE TECHNICIAN
726X

Exhibit Dates: 2/98–Present.

Career Pattern

May have progressed to Submarine Ordnance Technician Warrant Officer from Fire Control Technician (FT); Missile Technician (MT); or Machinist's Mate (MM).

Description

Serves as an officer technical specialist in ballistic missile weapons systems, administers hazardous material safety and handling plans (nuclear); trains and supervises personnel engaged in assembly, installation, operation, testing, maintenance, and repair of ballistic missile systems; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 in hazardous materials safety. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for curriculum design and instruction (2/98).

NWO-728X-001

Electronics Technician (Submarine)
728X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Electronics Technician (Submarine) Warrant Officer from Data Systems Technician (DS); Electronics Technician (ET); Electronics Warfare Technician (EW); Fire Control Technician (FT); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Fire Control Technician, Surface Missile Fire Control (FTM); Operations Specialist (OS); Ocean Systems Technician (OT); or Sonar Technician (ST).

Description

Serves as an officer technical specialist in the field of electronics; supervises those persons involved with the installation, operation, and maintenance of electronic systems; plans, organizes, and manages the activities of technical personnel; provides leadership necessary to guide personnel and develop individual responsibility; provides technical expertise to subordinates; writes reports; provides advice about electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 1 semester hour in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 for field experience in management, and 4 for field experience in electronics (1/84).

NWO-728X-002

Submarine Electronics Technician
728X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Submarine Electronics Technician Warrant Officer from Data Systems Technician (DS); Electronics Technician (ET); Fire Controlman (FC); Fire Control Technician, Ballistic Missile Fire Control (FTB); Fire Control Technician, Gun Fire Control (FTG); Ocean Systems Technician (OT); or Sonar Technician (ST).

Description

Serves as an officer technical specialist in the field of electronics; supervises those persons involved with the installation, operation, and maintenance of electronic systems; plans, organizes, and manages the activities of technical personnel; provides leadership necessary to guide staff and develop individual responsibility; provides technical expertise to subordinates; writes reports; provides advice about electronic and computer systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 1 semester hour in technical communication and 2 in introduction to computers. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 for field experience in management, and 4 for field experience in electronics (5/96).

NWO-731X-001

Aviation Boatswain
731X

Exhibit Dates: 1/90–10/97.

Career Pattern

May have progressed to Aviation Boatswain Warrant Officer from Aviation Boatswain's Mate (AB); Aviation Boatswain's Mate, Launching and Recovery Equipment (ABE); Aviation Boatswain's Mate Fuels (ABF); or Aviation Boatswain's Mate, Aircraft Handling (ABH).

Description

Serves as an officer technical specialist in aircraft handling and support operations aboard ship; plans and supervises loading, spotting, launching, recovering, and fueling aboard aircraft carriers and other aircraft-capable ships; supervises the maintenance and operation of aircraft catapults, arresting gear, aircraft fueling systems, and aircraft crash, fire, and salvage operations; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in aviation management. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (3/85).

NWO-731X-002

Aviation Boatswain
731X

Exhibit Dates: 11/97–Present.

Career Pattern

May have progressed to Aviation Boatswain Warrant Officer from Aviation Boatswain's Mate (AB); Aviation Boatswain's Mate, Launching and Recovery Equipment (ABE); Aviation Boatswain's Mate Fuels (ABF); or Aviation Boatswain's Mate, Aircraft Handling (ABH).

Description

Serves as an officer technical specialist in aircraft handling and support operations aboard ship; plans and supervises loading, spotting, launching, recovering, and fueling aboard aircraft carriers and other aircraft-capable ships; supervises the maintenance and operation of aircraft catapults, arresting gear, aircraft fueling systems, and aircraft crash, fire, and salvage operations; writes technical reports and personnel evaluation reports; supervises fuel testing laboratory and quality assurance procedures; uses management information systems for systems analysis.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in aviation management. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, 3 in budget management, and 3 in industrial management (11/97).

NWO-732X-001

Aviation Operations Technician
732X

Exhibit Dates: 1/90–1/98.

Career Pattern

May have progressed to Aviation Operations Technician Warrant Officer from Aviation Antisubmarine Warfare Operator (AW) Acoustic, Non-acoustic, or Helicopter.

Description

Serves as a officer technical specialist in either the field of air traffic control or air antisubmarine warfare. If serves in the field of air traffic control, organizes and supervises control tower operations, base operations, heliport operations, surveillance and approach radars, approach/departure control radars, planning airspace utilization, air traffic control procedures and training programs for qualification as air traffic controller; coordinates operational procedures with FAA, US military, and foreign air traffic control facilities; employs a broad knowledge of federal air regulations, terminal and enroute air traffic control procedures and planning, and must have a knowledge of ground-to-air communications, radar operations, recording equipment, teletype and landline communications, navigational aids, and weather. If serves in the field of air antisubmarine warfare, briefs and debriefs operational flight crews; evaluates and determines inflight operational efficiency of sensor system components and sensor operations; supervises preflight, inflight, and postflight inspections of antisubmarine warfare equipment and collection, preparation and transmission of data to appropriate analysis agencies; flies in support of mission of unit to which assigned; has broad knowledge of the characteristics and employment of US and foreign submarines, warships, small craft, and merchant ships and principles of radar, magnetic detection, electronic countermeasures, and underwater acoustics; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in aviation management. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (3/85).

NWO-732X-002

Aviation Operations Technician
732X

Exhibit Dates: 2/98–Present.

Career Pattern

May have progressed to Aviation Operations Technician from Aviation Warfare Systems Operator (AW), Acoustic, Non-acoustic, or Helicopter.

Description

Serves as a officer technical specialist in the tactical control of overall antisubmarine assets; responsible, under the ship's Tactical Action Officer, for antisubmarine (ASW) search patterns, analysis of appropriate data, and actual commitment of resources toward the prosecution of a suspected target; has overall responsibility for coordination of ASW operations within the battle group; responsible for the safety of flight in the ASW sector, involving knowledge of air traffic control procedures and planning, and an in-depth knowledge of ground-to-air communications, radar operations, recording equipment, navigational aids, weather and oceanographic features; conducts both preflight briefs and postflight debriefs for operational flight crews; responsible for overall mission evaluation after the exercise; presents a formal briefing of the result of the analysis to superior officers.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communications, 3 in technical report writing, 2 in flight safety procedures, 3 in personnel supervision, and 3 in computer application. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 3 in staff development (2/98).

NWO-734X-001

Aviation Maintenance Technician
734X

Exhibit Dates: 1/90–10/97.

Career Pattern

May have progressed to Aviation Maintenance Technician Warrant Officer from Aviation Machinist's Mate (AD); Aviation Machinist's Mate, Jet Engine Mechanic (ADJ); Aviation Machinist's Mate, Reciprocating Engine Mechanic (ADR); Aviation Structural Mechanic (AM); Aviation Structural Mechanic, Safety Equipment (AME); Aviation Structural Mechanic, Hydraulics (AMH); Aviation Structural Mechanic, Structures (AMS); Aviation Support Equipment Technician (AS); Aviation Support Equipment Technician, Electrical (ASE); Aviation Support Equipment Technician, Hydraulics and Structures (ASH); Aviation Support Equipment Technician, Mechanical (ASM); Aviation Maintenance Administrationman (AZ); Aircraft Maintenanceman (AF); or Aircrew Survival Equipmentman (PR).

Description

Serves as an officer technical specialist in the field of aircraft maintenance aboard ship and ashore; plans, organizes, and manages the activities of aviation maintenance personnel; may serve as assistant to aircraft maintenance officer or as power plant division officer; may work as technical advisor on the capabilities, limitations, and reliability of aircraft engines, accessories, airframes, and ground support, safety, and survival equipment; has responsibility for the operation and upkeep of the aircraft shops and the coordination of shop activities; plans and directs schedules of maintenance of aircraft; conducts inspections and provides necessary training; writes technical reports and personnel evaluation reports; keeps equipment maintenance records; develops operating budgets and monitors expenditures; may supervise and evaluate from 30-200 persons.

Recommendation

In the lower-division baccalaureate/associate degree category, 6 semester hours in personnel supervision, 3 in human relations, 3 in technical report writing, and 3 in record keeping. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in management problems, and additional credit for field experience in management on the basis of institutional evaluation (5/83).

NWO-734X-002

Aviation Maintenance Technician
734X

Exhibit Dates: 11/97–Present.

Career Pattern

May have progressed to Aviation Maintenance Technician Warrant Officer from Aviation Machinist's Mate (AD); Aviation Structural Mechanic (AM); Aviation Structural Mechanic, Safety Equipment (AME); Aviation Structural Mechanic, Hydraulics (AMH); Aviation Structural Mechanic, Structures (AMS); Aviation Support Equipment Technician (AS); Aviation Support Equipment Technician, Electrical (ASE); Aviation Support Equipment Technician, Hydraulics and Structures (ASH); Aviation Support Equipment Technician, Mechanical (ASM); Aviation Maintenance Administrationman (AZ); Aircraft Maintenanceman Master Chief (AFCM); or Aircrew Survival Equipmentman (PR).

Description

Serves as an officer technical specialist in the field of aircraft maintenance aboard ship and ashore; plans, organizes, and manages the activities of aviation maintenance personnel; may serve as assistant to aircraft maintenance officer or as power plant division officer; may work as technical advisor on the capabilities, limitations, and reliability of aircraft engines, accessories, airframes, and ground support, safety, and survival equipment; has responsibility for the operation and upkeep of the aircraft shops and the coordination of shop activities; plans and directs schedules of maintenance of aircraft; conducts inspections and provides necessary training; writes technical reports and personnel evaluation reports; keeps equipment maintenance records; develops operating budgets and monitors expenditures; may supervise and evaluate from 30-200 persons; uses management information systems for systems analysis.

Recommendation

In the lower-division baccalaureate/associate degree category, 6 semester hours in personnel supervision, 3 in human relations, 3 in technical report writing, 3 in record keeping, 3 in business communication, and 2 in management information systems. In the upper-division baccalaureate category, 6 semester hours for field experience in management, 3 in management problems, 3 in principles of management, 3 in operations management, and 3 in business organization and management (11/97).

NWO-736X-001

Aviation Ordnance Technician
736X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Aviation Ordnance Technician Warrant Officer from Aviation Ordnanceman (AO) or Gunner's Mate Technician (GMT).

Description

Serves as an officer technical specialist in the uses, capabilities, limitations, and reliability of aviation ordnance, handling equipment, and aircraft armament; supervises and directs the arming/dearming of aircraft and the requisitioning, stowing, handling, testing, disassembling, assembling, installing, operating, maintaining, and repairing of aviation ordnance, handling equipment, and aircraft armament; supervises and directs the stowage, testing, and installation of aircraft missiles; interprets, disseminates, and ensures compliance with regulations and safety precautions governing the handling and stowing of aircraft ammunition, aircraft missiles, pyrotechnics, and explosives; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates the activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (10/85).

NWO-736X-002

Aviation Ordnance Technician
736X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Aviation Ordnance Technician Warrant Officer from Aviation Ordnanceman (AO) or Weapons Technician (WT).

Description

Serves as an officer technical specialist in the uses, capabilities, limitations, and reliability of aviation ordnance, handling equipment, and aircraft armament; supervises and directs the arming/dearming of aircraft and the requisitioning, stowing, handling, testing, disassembling, assembling, installing, operating, maintaining, and repairing of aviation ordnance, handling equipment, and aircraft armament; supervises and directs the stowage, testing, and installation of aircraft missiles; interprets, disseminates, and ensures compliance with regulations and safety precautions governing the handling and stowing of aircraft ammunition, aircraft missiles, pyrotechnics, and explosives; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; generates and uses computer programs and data to facilitate personnel and logistics management; provides leadership and coordinates the activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing, 3 in personnel supervision, 3 interpersonal communication, and 3 in computer applications. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in organizational management, and 3 in logistics management (10/96).

NWO-738X-001

AVIATION ELECTRONICS TECHNICIAN
738X

Exhibit Dates: 1/90–8/96.

Career Pattern

May have progressed to Aviation Electronics Technician Warrant Officer from Aviation Electrician's Mate (AE), Aviation Electronic's Technician (AT), Aviation Fire Control Technician (AQ), Aviation Antisubmarine Warfare Technician (AX), or Tradevman (TD).

Description

Serves as an officer technical specialist in the field of aviation electronics (avionics) in supervisory positions on aircraft aboard ship and at shore facilities; serves as technical specialist/ advisor to higher authority; supervises and directs practices and procedures for servicing, testing, and maintaining aviation electrical, electronic, instrument, and test equipment; serves as avionic officer, support officer, electronics officer, and avionic/weapons division officer; organizes, supervises, and directs avionic/electronic maintenance facilities; conducts active maintenance and repair programs; coordinates avionic work with other aircraft maintenance work; trains others in the use of avionic equipment, their capabilities and limitations; writes reports and provides advice about electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in aviation maintenance systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (1/84).

NWO-738X-002

AVIATION ELECTRONICS TECHNICIAN
738X

Exhibit Dates: 9/96–Present.

Career Pattern

May have progressed to Aviation Electronics Technician Warrant Officer from Aviation Electrician's Mate (AE), Aviation Electronic's Technician (AT), or Avionics Technician (AV).

Description

Serves as an officer technical specialist in the field of aviation electronics (avionics) in supervisory positions on aircraft aboard ship and at shore facilities; serves as technical specialist/ advisor to higher authority; supervises and directs practices and procedures for servicing, testing, and maintaining aviation electrical, electronic, instrument, and test equipment; serves as avionic officer, support officer, electronics officer, and avionic/weapons division officer; organizes, supervises, and directs avionic/electronic maintenance facilities; conducts maintenance and repair programs; coordinates avionic work with other aircraft maintenance work; trains others in the use of avionic equipment, their capabilities and limitations; writes reports and provides advice about electronic systems.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical report writing, 3 in computer applications, and 3 in aviation maintenance systems. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in aviation maintenance management, and 3 for a management internship (10/96).

NWO-740X-001

NUCLEAR POWER TECHNICIAN
740X

Exhibit Dates: 1/90–4/96.

Career Pattern

This LDO designator was formerly 715X, Nuclear Power Technician, Surface and 725X Nuclear Power Technician, Submarine. May have progressed to Nuclear Power Technician Warrant Officer from Electrician's Mate (EM), Electronics Technician (ET), Interior Communications Electrician (IC), or Machinist's Mate (MM).

Description

Serves as an officer technical specialist in the repair, maintenance, and operation of Naval nuclear propulsion plants, nuclear ship systems, and associated equipment; coordinates and supervises skilled craftsmen and administrative support personnel; provides technical assistance in the overhaul, refueling, and decontamination of nuclear propulsion plants; monitors and supervises nuclear propulsion plant, chemical analysis and chemistry control practices and procedures, and quality assurance; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (10/85).

NWO-740X-002

NUCLEAR POWER TECHNICIAN
740X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Nuclear Power Technician Warrant Officer from Electrician's Mate (EM), Electronics Technician (ET), or Machinist's Mate (MM).

Description

Serves as an officer technical specialist in the repair, maintenance, and operation of Naval nuclear propulsion plants, nuclear ship systems, and associated equipment; coordinates and supervises skilled craftsmen and administrative support personnel; provides technical assistance in the overhaul, refueling, and decontamination of nuclear propulsion plants; monitors and supervises nuclear propulsion plant, chemical analysis and chemistry control practices and procedures, and quality assurance; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, 3 in management information systems, 3 in quality control systems, 3 in nuclear power systems, and 3 in regulatory compliance. In the upper-division baccalaureate category, 3 semester hours in principles of management, 4 in management problems, and 6 for field experience in management (5/96).

NWO-741X-002

SHIP'S CLERK
741X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Ship's Clerk from Lithographer (LI), Journalist (JO), Postal Clerk (PC), Personnelman (PN), Yeoman (YN), Legalman (LN), or Religious Program Specialist (RP).

Description

Serves as an officer technical specialist in manpower arrangement or general administration; plans, organizes, and manages activities of personnel in one or more related management areas such as postal office, print shops, or mail department; develops management plans; reviews records and assigns personnel; prepares reports; writes directives and correspondence; serves as administrator of captain's office; reviews and edits regulations; may plan training programs and assist in career planning; analyzes data and makes recommendations; serves as specialist in Naval administration, personnel administration, and office organization.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in human relations, and 3 in office management. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 for field experience in management, 3 in management problems, and 3 in principles of management (11/83).

NWO-741X-003

SHIP'S CLERK
741X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Ship's Clerk from Lithographer (LI), Journalist (JO), Postal Clerk (PC), Personnelman (PN), Yeoman (YN), Legalman (LN), or Religious Program Specialist (RP).

Description

Serves as an officer technical specialist and performs duties in administration, personnel management, postal affairs, printed publications, and personnel processing; possesses a broad knowledge of Navy procedures, organization, regulations, and directives.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision and 3 in records and information management. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in public relations management, and 3 for field experience in management. If the rank of CWO3 has been attained, add 3 semester hours for field experience in management. If rank of CWO4 has been attained, add 3 semester hours in management problems (2/96).

NWO-742X-001

Data Processing Technician
742X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Data Processing Technician from Data Processing Technician (DP) or Data Systems Technician (DS).

Description

Serves as an officer technical specialist in the field of automatic data processing utilizing both electronic digital computer and electronic accounting machine equipment; supervises personnel concerned with the preparation of data processing and operation of all automatic data processing equipment; programs, debugs, and operates interactive and batch programs; develops policy for job processing priorities; develops processing evaluation methods, work standards, and procedure manuals for programmers and analysts; prepares budgets and performs cost analysis for computer operations; provides leadership necessary to guide personnel and develop individual responsibility. Responsibilities include strategic and tactical, scientific, business, and logistics data; provides technical advice on equipment and processing techniques; prepares an automatic data processing site and monitors the installation of computer hardware; ensures data integrity and computer security; orders, issues, and inventories computer supplies and repair parts; handles cost control duties; writes reports on operations; conducts training for staff and system users in specific applications; duties vary depending on the size of the organization and the specific computer installation; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in college algebra, and 1 in statistics. In the upper-division baccalaureate category, 3 semester hours in management problems, 3 in principles of management, 3 for field experience in data processing, and 3 for field experience in management (11/83).

NWO-742X-002

Data Processing Technician
742X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Data Processing Technician from Data Processing Technician (DP) or Data Systems Technician (DS).

Description

Serves as an warrant officer technical specialist in automated data processing and digital telecommunication technology; provides direct supervision of programmers and telecommunication personnel concerned with the installation, operation and maintenance of data systems including hardware and software operating and application programs; develops local area network design specification and connections to Wide Area Networks including system requirements, band width specifications and technical requirements; provides system administration including beta testing, troubleshooting, traffic control, and systems training; develops policy for data processing and communication priorities, evaluation methods, work standards, and procedures manuals for technicians; provides leadership, professional counseling and career guidance for team members; provides technical reports and advice to the command on data processing and communication matters; prepares budgets and performs cost analysis for computer and communication operations; maintains appropriate records and documentation and prepares personnel evaluation reports. Responsibilities include: data processing and communication needs for administration, personnel, logistics, intelligence, and operational requirements for tactical and non-tactical operations; ensuring data integrity and systems security; inventory control; and Total Quality Management (TQM).

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in computer programming in UNIX and C++, and 3 in technical report writing. In the upper-division baccalaureate category, 3 semester hours in computer systems and organization, 3 in local area networking, 3 in network management, 3 in digital telecommunications analysis, 3 in principles of supervision, and 3 for field experience in management (2/96).

NWO-744X-001

Cryptologic Technician
744X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Cryptologic Technician Warrant Officer from Cryptologic Technician, Administrative (CTA); Cryptologic Technician, Interpretive (CTI); Cryptologic Technician, Maintenance (CTM); Cryptologic Technician, Communications (CTO); Cryptologic Technician, Collection (CTR); or Cryptologic Technician, Technical (CTT).

Description

Serves as an officer technical specialist in all phases of operations conducted by the Naval Security Group Command, including signals intelligence, signals security, and electronic warfare; responsible for administration, personnel support, electronic maintenance, communications, and technical research in support of the operating forces and the national cryptologic effort; provides overall technical supervision, in accordance with appropriate directives required in employing equipment and manpower resources; supervises the installation and maintenance of electrical, electromechanical, and electronic equipment and the conduct of communications, administrative, or communications security functions; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (2/86).

NWO-744X-002

Cryptologic Technician
744X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Cryptologic Technician Warrant Officer from Cryptologic Technician, Administrative (CTA); Cryptologic Technician, Interpretive (CTI); Cryptologic Technician, Maintenance (CTM); Cryptologic Technician, Communications (CTO); Cryptologic Technician, Collection (CTR); or Cryptologic Technician, Technical (CTT).

Description

Serves as an officer technical specialist in all phases of operations conducted by the Naval Security Group Command, including signals intelligence, signals security, and electronic warfare; responsible for administration, personnel support, electronic maintenance, communications, and technical research in support of the operating forces and the national cryptologic effort; provides overall technical supervision, in accordance with appropriate directives required in employing equipment and manpower resources; supervises the installation and maintenance of electrical, electromechanical, and electronic equipment and the conduct of communications, administrative, or communications security functions; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical writing and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in management problems, and 3 for field experience in management (2/96).

NWO-745X-002

Intelligence Technician
745X

Exhibit Dates: 1/90–4/96.

Career Pattern

Progressed to Intelligence Technician Warrant Officer from Intelligence Specialist (IS).

Description

Supervises and directs personnel in assembling and analyzing data from a wide variety of sources and the application and employment of such data; supervises and directs personnel in preparation of material and its use in planning missions and preparation of graphics, including annotated photographs, plot sheets, mosaics, and overlays; plots and prepares imagery and intelligence reports; provides input to and receives data from computerized intelligence systems; maintains files including photographs, maps and charts, and photographic interpretation keys; maintains and updates intelligence libraries.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and, based on institutional evaluation of the student's experiences, an additional 3 semester hours in any of the following areas: computer science, cultural geography, political science, or principles of cartography. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (4/86).

NWO-745X-003

INTELLIGENCE TECHNICIAN
745X

Exhibit Dates: 5/96–Present.

Career Pattern

Progressed to Intelligence Technician Warrant Officer from Intelligence Specialist (IS).

Description

Supervises and directs personnel in assembling and analyzing data from a wide variety of sources and the application and employment of such data; supervises and directs the preparation of material and its use in planning missions and preparation of graphics, including annotated photographs, plot sheets, mosaics, and overlays; plots, prepares, and presents imagery and intelligence reports; provides input to and receives data from computerized intelligence systems; maintains files including photographs, maps and charts, and photographic interpretation keys; maintains and updates intelligence libraries.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in computer-assisted graphic communication and analysis, 3 in personnel supervision, and, based on institutional evaluation of the student's experiences, an additional 3 semester hours in any of the following areas: computer science, cultural geography, political science, or principles of cartography. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, and 3 for field experience in management (5/96).

NWO-747X-001

PHOTOGRAPHY
747X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Photography Warrant Officer from Illustrator Draftsman (DM), Intelligence Specialist (IS), Journalist (JO), or Photographer's Mate (PH).

Description

Serves as an officer technical specialist in the field of photographic and other imaging systems and equipment; directs, supervises, and trains military personnel in the use of still, motion picture, and video systems in aerial, surface and subsurface imaging; supervises in the operation of imaging commands and activities, combat camera groups, and aerial reconnaissance imaging systems; provides technical advice and assistance on photographic, other imaging, and imaging support matters; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in photographic (or image) theory and technology. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (3/86).

NWO-747X-002

PHOTOGRAPHY
747X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Photography Warrant Officer from Illustrator Draftsman (DM), Intelligence Specialist (IS), Journalist (JO), or Photographer's Mate (PH).

Description

Serves as an officer technical specialist in the field of chemical, electronic, and digital photographic and other imaging systems and equipment; directs, supervises, and trains military personnel in the use of still, motion picture, and video systems in aerial, surface and subsurface imaging; supervises the operation of imaging support for commands and activities, combat camera groups, and aerial reconnaissance imaging systems; provides technical advice and assistance on photographic, other imaging, and imaging support matters; writes technical reports and personnel evaluation reports; responsible for providing routine public and command information support, operational documentation, intelligence analysis and special assignments; manages personnel staffing and assignments, budgeting, training and the supplies and equipment for all imaging support of assigned command; writes evaluation reports, conducts personnel counseling, and supervision.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in photographic (or image) theory and technology. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 for field experience in management, and 3 for human resources management (2/96).

NWO-748X-001

EXPLOSIVE ORDNANCE DISPOSAL TECHNICIAN
748X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Explosive Ordnance Disposal Technician Warrant Officer from any rating; must be qualified in explosive ordnance disposal.

Description

Serves as an officer technical specialist in the methods of detection, identification, field evaluation, recovery, removal, disposal, and rendering safe of all types of US and foreign explosive ordnance, explosives, and demolition materials and in the technical escort of chemical and biological warfare agents; plans and supervises the activities of personnel engaged in diving and explosive ordnance disposal operations involving all types of US and foreign munitions— conventional and improvised; supervises the repair and modification of explosive ordnance disposal tools, equipment, and material; supervises the procurement, storage, issue, security, and preservation of explosive ordnance disposal equipment, material, and components; inspects and evaluates unidentified explosive ordnance items and determines the proper method of recovery, removal, disposal, or rendering safe of such items; supervises technical escort missions; performs airborne techniques; provides Secret Service with explosive ordnance disposal support for presidential and other VIP protection; supervises the activities of personnel engaged in diving and/or underwater recovery operations; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, and 3 for field experience in management (10/85).

NWO-748X-002

EXPLOSIVE ORDNANCE DISPOSAL TECHNICIAN
748X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Explosive Ordnance Disposal Technician Warrant Officer from any rating; must be qualified in explosive ordnance disposal.

Description

Serves as an officer technical specialist in the methods of detection, identification, field evaluation, recovery, removal, disposal, and rendering safe of all types of US and foreign explosive ordnance, explosives, and demolition materials and in the technical escort of chemical and biological warfare agents; plans and supervises diving activities and explosive ordnance disposal operations involving all types of US and foreign munitions— conventional and improvised; supervises the repair and modification of explosive ordnance disposal tools, equipment, and material; supervises the procurement, storage, issue, security, and preservation of explosive ordnance disposal equipment, material, and components; inspects and evaluates unidentified explosive ordnance items and determines the proper method of recovery, removal, disposal, or rendering safe of such items; supervises technical escort missions; performs airborne techniques; provides Secret Service with explosive ordnance disposal support for presidential and other VIP protection; supervises diving activities and/or underwater recovery operations; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel; performs all administrative functions using computer software.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in applied physics, 3 in medical technology and first aid, 3 in technical communication, 3 in personnel supervision, and 3 for field experience in technical communication. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in management information systems, and 3 for field experience in management (5/96).

NWO-749X-001

Security Technician
749X

Exhibit Dates: 1/90–4/96.

Career Pattern

Progressed to Security Technician Warrant Officer from Master-At-Arms (MA).

Description

Serves as an officer technical specialist in matters of law enforcement, physical security, and corrections; plans, organizes, and supervises physical security programs aboard naval ships and activities; establishes and maintains access/egress systems providing for detection/prevention of sabotage and theft; plans and directs law enforcement programs including aggressive contraband control initiatives; supervises operation of brigs afloat; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of security organization and administration and 3 in personnel distribution and deployment. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in budget administration, and 6 for field experience in management (12/85).

NWO-749X-002

Security Technician
749X

Exhibit Dates: 5/96–Present.

Career Pattern

Progressed to Security Technician Warrant Officer from Master-At-Arms (MA).

Description

Serves as an officer technical specialist in matters of law enforcement, physical security, and corrections; plans, organizes, and supervises physical security programs aboard naval ships and activities; establishes and maintains access/egress systems providing for detection/prevention of sabotage and theft; plans and directs law enforcement programs including aggressive contraband control initiatives; supervises operation of brigs afloat; plans, develops, and administers training programs; writes technical reports and personnel evaluation reports; develops operating budgets and monitors expenditures; provides leadership and coordinates activities of technical personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in principles of security organization and administration and 3 in personnel distribution and deployment. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in budget administration, 3 in total quality management, and 3 for field experience in management (5/96).

NWO-751X-001

Supply Corps
751X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Supply Corps Warrant Officer from Aviation Storekeeper (AK), Disbursing Clerk (DK), Mess Management Specialist (MS), Ship's Serviceman (SH), or Storekeeper (SK).

Description

Serves as an officer technical specialist in the field of supply, including fiscal accounting and disbursing, material distribution and control, operation of ship's stores, Navy exchanges, and commissary stores; directs and administers supply activities; interprets department regulations and determines policies and procedures; responsible for the accounting and disbursing of funds and distribution of supplies; develops and maintains proper budgeting policies; directs stock accounting systems and inventory control methods and systems; disposes of excess and obsolete stock; stores and distributes material; utilizes a broad knowledge of logistics procedures, transportation systems, distribution concepts, budgeting and accounting policies, retail operation concepts, inventory control techniques, and material management; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in supply management. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget administration, and 3 for field experience in management (3/86).

NWO-751X-002

Supply Corps
751X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Supply Corps Warrant Officer from Aviation Storekeeper (AK), Disbursing Clerk (DK), Data Processing Technician (DP), Mess Management Specialist (MS), Ship's Serviceman (SH), or Storekeeper (SK).

Description

Serves as an officer technical specialist in the field of supply, including fiscal accounting and disbursing, material distribution and control, operation of ship's stores, Navy exchanges, and commissary stores; directs and administers supply activities; interprets department regulations and determines policies and procedures; responsible for the accounting and disbursing of funds, and purchasing and distribution of supplies; develops, recommends, and maintains proper budgeting policies; directs stock accounting systems and inventory control methods and systems; disposes of excess and obsolete stock; stores and distributes material; utilizes a broad knowledge of logistics procedures, transportation systems, distribution concepts, budgeting and accounting policies, retail operation concepts, inventory control techniques, and material management; writes technical reports; supervises and evaluates personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical writing, 3 in personnel supervision, and 3 for field experience in supply management. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget administration, and 3 in materiel management (2/96).

NWO-752X-001

Food Service
752X

Exhibit Dates: 1/90–1/96.

Career Pattern

May have progressed to Food Service Warrant Officer from Mess Management Specialist (MS).

Description

Serves as an officer technical specialist in the field of food service and the administration of messing activities afloat and ashore; directs and administers food service activities; interprets department regulations and determines policies and procedures; responsible for the receipt, issue, storage, and preservation of food items; administers financial and operational controls of food service operations; responsible for the auditing and rendering of financial returns; manages food service operations; utilizes a broad knowledge of proper budgeting and fiscal policies, management accounting, progress and statistical reporting, menu and nutritional planning, food handling and storage, and sanitation requirements and techniques.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in nutrition planning and menu planning and 3 for field experience in food service operations. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in food service management, 3 in budget administration, and 3 for field experience in management (3/86).

NWO-752X-002

Food Service
752X

Exhibit Dates: 2/96–Present.

Career Pattern

May have progressed to Food Service Warrant Officer from Mess Management Specialist (MS).

Description

Serves as an officer technical specialist in the field of food service and the administration of messing activities afloat and ashore; directs and administers food service activities; interprets department regulations and determines policies and procedures; responsible for the purchasing, receipt, issue, storage, and preservation of food items; administers financial and operational controls of food service operations; responsible for the auditing and rendering of financial returns; manages food service operations; utilizes a broad knowledge of proper budgeting and fiscal policies, management accounting, progress and statistical reporting, menu and nutritional planning, food handling and storage, and sanitation requirements and techniques; writes technical report; supervises and evaluates personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in nutrition planning and menu planning, 3 for field experience in food service operations, and 3 in technical writing. In the upper-division baccalaureate category, 3 semester hours in personnel management, 3 in food service management, 3 in budget administration, and 3 for field experience in management (2/96).

NWO-753X-001

Civil Engineer Corps
753X

Exhibit Dates: 1/90–4/96.

Career Pattern

May have progressed to Civil Engineer Corps Warrant Officer from Builder (BU), Construction Electrician (CE), Construction Mechanic (CM), Illustrator Draftsman (DM), Engineering Aid (EA), Equipment Operator (EO), Steelworker (SW), Utilitiesman (UT), Master Chief Constructionman (CUCM), or Master Chief Equipmentman (EQCM).

Description

Serves as an officer technical specialist in the field of horizontal and vertical construction, facilities maintenance, utilities, and automotive and construction equipment; helps plan, coordinate, direct, and supervise the technical, operational, training, and administrative responsibilities of Naval construction force units; assists in the planning, scheduling, operational, and technical responsibilities of public works departments within the Navy shore establishment; supervises personnel engaged in horizontal and vertical construction, maintenance, and repair of buildings, airfields, hardstands, waterfront structures, and utility systems and in the operation, testing, maintenance, and repair of allied plants and automotive and construction equipment; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in technical communication, 3 in personnel supervision, and 3 for field experience in civil engineering. In the upper-division baccalaureate category, 3 semester hours in principles of management, 3 in management problems, 3 in budget administration, and 3 for field experience in management (3/86).

NWO-753X-002

Civil Engineer Corps
753X

Exhibit Dates: 5/96–Present.

Career Pattern

May have progressed to Civil Engineer Corps Warrant Officer from Builder (BU); Construction Electrician (CE); Construction Mechanic (CM); Illustrator Draftsman (DM); Engineering Aid (EA); Equipment Operator (EO); Steelworker (SW); Utilitiesman (UT); Master Chief Constructionman (CUCM); or Master Chief Equipmentman (EQCM).

Description

Serves as an officer technical specialist in the field of horizontal and vertical construction, facilities maintenance, utilities, and automotive and construction equipment; helps plan, coordinate, direct, and supervise the technical, operational, training, and administrative responsibilities of Naval construction force units; assists in the planning, scheduling, operational, and technical responsibilities of public works departments within the Navy shore establishment; supervises personnel engaged in horizontal and vertical construction, maintenance, and repair of buildings, airfields, waterfront structures, and utility systems and in the operation, testing, maintenance, and repair of public works plants and automotive and construction equipment; writes technical reports and personnel evaluation reports.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in construction estimating, 3 in construction scheduling, 3 in personnel supervision, 3 in introduction to computers, and 2 in facility maintenance management. In the upper-division baccalaureate category, 3 semester hours in construction project management, 3 in management problems, and 6 for field experience in management (5/96).

Navy Enlisted Classification (NEC) Exhibits

NEC-1588-001

Electronics Standards Specialist

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals selected for this NEC are in paygrades E-4 through E-7. The NEC is awarded after successful completion of course A-198-0032 or Air Force course G3A2R32470 022. For those in the Aviation Electronics Technician (AT) rating, NEC 6673 is a prerequisite (see exhibit NEC-6673-001). To verify proficiency, refer either to NAVPERS 1070/604, NAVPERS 1616/24, or a Training Evaluation Report. This report rates the individual on knowledge, demonstrated level of skill, and hands-on maintenance.

Description

Performs intermediate-level calibration of electronic test equipment used in production and maintenance of naval weapon, command and control, and data processing systems to prescribed tolerances; repairs electrical/electronic test equipment incidental to the calibration process; calibrates equipment operating up to microwave frequency range.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic measurement techniques, 3 in electronic systems troubleshooting and maintenance, 3 in electronic communications, and 3 in introduction to radar systems (5/92).

NEC-2186-001

Career Recruiter—Recruiter

Exhibit Dates: 1/90–Present.

Career Pattern

NEC 2186 is awarded to proven successful recruiters (NEC 9585) who are selected for assignment to recruiting duty for the remainder of their naval career. Individuals with NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Four steps are necessary in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open book test; 4. A two-hour oral examination before the Qualification Board. Advancement within the NEC is achieved through a certification process. The four levels in the NEC are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before Advancing to the next level, the individual must meet the qualifications standards and pass an oral exam before the Qualifications Board.

Description

Provides qualified civilians for enlistment into the Navy; identifies target market populations; selects and uses appropriate support resources; prospects recruits; conducts interviews; enlists individuals; completes enlistment records; counsels rejected applicants; analyzes recruiting results; formulates plans for improving recruiting, marketing, and processing.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques and 3 in oral communication. In the upper-division baccalaureate category, 3 semester hours for field experience in marketing (2/88).

NEC-2186-002

Career Recruiter—Recruiter-In-Charge

Exhibit Dates: 1/90–Present.

Career Pattern

NEC 2186 is awarded to proven successful recruiters (NEC 9585) who are selected for assignment to recruiting duty for the remainder of their naval career. Individuals with NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Four steps are necessary in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open book test; 4. A two-hour oral examination before the Qualification Board. Advancement within the NEC is achieved through a certification process. The four levels in the NEC are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before Advancing to the next level, the individual must meet the qualifications standards and pass an oral exam before the Qualifications Board.

Description

Able to perform the duties required for recruiter; provides leadership and supervision of Navy Recruiters at a recruiting station; utilizes resources to provide sufficient numbers of qualified applicants for enlistment; supervises office routines; directs office personnel; manages resources; conducts training of recruiters; processes documents; supervises the use of government vehicles; ensures the orderly flow of qualified applicants into the Navy.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, 3 in office administration, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in marketing (2/88).

NEC-2186-003

Career Recruiter—Zone Supervisor

Exhibit Dates: 1/90–Present.

Career Pattern

NEC 2186 is awarded to proven successful recruiters (NEC 9585) who are selected for assignment to recruiting duty for the remainder of their naval career. Individuals with NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Four steps are necessary in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open book test; 4. A two-hour oral examination before the Qualification Board. Advancement within the NEC is achieved through a certification process. The four levels in the NEC are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before Advancing to the next level, the individual must meet the qualifications standards and pass an oral exam before the Qualifications Board.

Description

Able to perform the duties required for Recruiter-In-Charge; manages and supervises use of resources in assigned recruiting zone; performs administrative and management functions; supervises subordinates at recruiting stations within a geographic region; develops and conducts training programs; provides input for budget; manages procurement effort within the region; evaluates functions of recruiting stations and their personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, 3 in office administration, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in vocational counseling, 3 in operations management, 3 in personnel management, and 4 for field experience in marketing (2/88).

NEC-2186-004

Career Recruiter—Chief Recruiter

Exhibit Dates: 1/90–Present.

Career Pattern

NEC 2186 is awarded to proven successful recruiters (NEC 9585) who are selected for assignment to recruiting duty for the remainder of their naval career. Individuals with NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Four steps are necessary in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open book test; 4. A two-hour oral examination before the Qualification Board. Advancement within the NEC is achieved through a certification process. The four levels in the NEC are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before Advancing to the next level, the individual must meet the qualifications standards and pass an oral exam before the Qualifications Board.

Description

Able to perform the duties required for Zone Supervisor; manages, supervises, and coordinates the use of all resources in a recruiting district which may include portions of several states; performs administrative and management functions of planning, organizing, coordinating, training, and evaluating; writes reports; manages budget and submits proposed budget; counsels zone and regional personnel; inspects recruiting stations; manages regional office.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, 3 in office administration, and 3 in personnel supervision. In the upper-division baccalaureate category, 2 semester hours in vocational counseling, 3 in sales management, 3 in operations management, 3 in personnel management, and 6 for field experience in marketing (2/88).

NEC-2612-001

CLASSIFICATION INTERVIEWER—CLASSIFIER

Exhibit Dates: 1/90–Present.

Career Pattern

Classification Interviewers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Classification Interviewer course; 2. A minimum of six months of supervised on-the-job training; during this time the Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion on an open book test; 4. A two-hour oral examination before the Qualification Board. Serves as a member of a staff of a Navy Recruiting District which comprises parts of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include Classifier, Enlisted Processing Division Supervisor, and Military Entrance Processing System Liaison Petty Officer.

Description

Interviews potential enlistees to determine aptitudes and interests for military assignments; determines educational and occupational background, hobbies, abilities, and interests of personnel; administers and scores basic battery and other classification tests; screens personnel training assignments; makes reservations for training programs.

Recommendation

In the upper-division baccalaureate category, 2 semester hours in vocational counseling and 2 for field experience in sales techniques (6/89).

NEC-2612-002

CLASSIFICATION INTERVIEWER—ENLISTED PROCESSING DIVISION SUPERVISOR

Exhibit Dates: 1/90–Present.

Career Pattern

Classification Interviewers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Classification Interviewer course; 2. A minimum of six months of supervised on-the-job training; during this time the Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion on an open book test; 4. A two-hour oral examination before the Qualification Board. Serves as a member of a staff of a Navy Recruiting District which comprises parts of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include Classifier, Enlisted Processing Division Supervisor, and Military Entrance Processing System Liaison Petty Officer.

Description

Manages and supervises the processing of qualified applicants for enlistment within a district; interprets and submits reports; supervises and counsels assigned personnel; submits input to annual training plans including an evaluation of training effectiveness; monitors production and statistical evaluation; prepares work load schedule for processing applicants.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in personnel supervision. In the upper-division baccalaureate category, 1 semester hour in training and development (6/89).

NEC-2612-003

CLASSIFICATION INTERVIEWER—MILITARY ENTRANCE PROCESSING STATION (MEPS) LIAISON PETTY OFFICER

Exhibit Dates: 1/90–Present.

Career Pattern

Classification Interviewers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Classification Interviewer course; 2. A minimum of six months of supervised on-the-job training; during this time the Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion on an open book test; 4. A two-hour oral examination before the Qualification Board. Serves as a member of a staff of a Navy Recruiting District which comprises parts of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include Classifier, Enlisted Processing Division Supervisor, and Military Entrance Processing System Liaison Petty Officer.

Description

Coordinates prequalification processing of potential recruits; serves as quality control checkpoint prior to actual enlistment or reenlistment; performs liaison functions between Military Entrance Processing Station (MEPS) and the recruiting district; verifies accuracy and completeness of applicant paperwork; identifies enlistment requirements, waiver requirements, and specific program eligibility requirements; explains enlistment obligations to applicants.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in office administration (6/89).

NEC-6673-001

FIELD CALIBRATION ACTIVITY TECHNICIAN (ELECTRICAL/ELECTRONICS)

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals selected for this NEC are in paygrades E-1 through E-7. The NEC is awarded after successful completion of course D-198-6670 or E-198-6670. To verify proficiency, refer either to NAVPERS 1070/604, NAVPERS 1616/24, or a Training Evaluation Report. This report rates the individual on knowledge, demonstrated level of skill, and hands-on maintenance.

Description

Calibrates general purpose and specialized ground support electronic test equipment and ancillary equipment in intermediate-level field calibration activities and aircraft intermediate maintenance activities, ashore and afloat, using appropriate calibration standards; repairs electronic test equipment incidental to the calibration process; calibrates mechanical measuring instruments and a wide variety of transducer-equipped instruments for measurement of temperature, pressure, and torque.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in electronic measurement techniques, 3 in electronic systems troubleshooting and maintenance, and 3 in electronic communications (5/92).

NEC-9502-001

INSTRUCTOR

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals holding NEC 9502 generally volunteer for instructor duty. Persons selected must be mature, stable, outgoing individuals who communicate effectively and are strongly motivated. The regular tour is three or four years. A screening process for suitability is followed by an interview with and recommendation by the commanding officer. Five steps are part of the certification process for award of the NEC:1. Successful completion of Basic Instructor Training course (A-012-0011)2. Successful completion of a curriculum development course3. Favorable interview by a Qualification Board4. Attendance at instructor workshops with accompanying classroom observations5. Six months of successful supervised teaching.

Description

Knows lesson planning, instructional strategies, selection of visual aids, and teaching skills; designs lessons from a body of content; develops behavioral objectives; prepares test items; evaluates instructional materials and the results of instruction; presents material clearly and possesses platform (teaching) skills.

Recommendation

In the lower-division baccalaureate/associate degree category, 2 semester hours in learning theory, 3 in interpersonal communications, 3 in principles of speech, and 3 in instructional media. In the upper-division baccalaureate category, 1 semester hour in curriculum design and 2 in instructional strategy (3/90).

NEC-9506-001

CURRICULUM AND INSTRUCTIONAL STANDARDS SPECIALIST

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals holding NEC 9506 are in paygrades E-5 to E-9 and may hold any rating. The NEC may be awarded either by formal training or on-the-job training. Six months are usually required to attain a wide range of competency in all areas of the NEC. May have taken the Training Materials Development System (TMDS) Curriculum Developer course (A-012-0015).

Description

Develops group-paced instructional materials in accordance with Navy curriculum development standards and guidelines; advises subject-matter experts on development procedures and formatting; evaluates curriculum documents and instructional delivery procedures; performs instructional assessment, test construction, review and validation of course competencies, and consistency of format for review of existing courses or the design of new courses.

Recommendation

In the upper-division baccalaureate category, 2 semester hours for a practicum/field experience in curriculum design or development (3/92).

NEC-9513-001

MANPOWER ANALYST

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals holding NEC 9513 are in paygrades E-5 through E-9. They may enter this field from any other rating but generally progress from the Yeoman (YN) or Personnelman (PN) rating. This is a logical career progression for new Manpower Analysts, blending classroom training with practical field experience. The training track is designed in three phases which are strengthened by on-the-job training: Phase I, Entry Level: Focuses on learning basic language/terminology used in manpower management and basic analyst skills. Courses taken: Introduction to Navy Manpower, Efficiency Review for Analysis, and Methods and Improvement. Phase II, Intermediate (Journeyman) Level: Designed to provide a solid foundation in the tools and techniques of work measurement and methods improvement applied to the Navy's Total Forces Management System. Courses taken: Total Force Manpower Management Systems, and Micro-Manpower Change Applications. Phase III, Advanced Level: Includes advanced training designed to fully develop a manpower manager, and provides a broad base of advanced analytical techniques and manpower systems knowledge. Course taken: Manpower Systems Management. A "Manpower Analyst" certificate is awarded at the completion of Phase I and II training, accompanied by two or more years of field experience in manpower analysis/management work.A "Senior Manpower Analyst" certificate is awarded at the completion of all three phases plus the equivalent of three years of field experience.

Description

Performs manpower management functions including manpower planning, budgeting, and analysis; uses proper software applications, and quality control for manpower planning and programming purposes; performs technical analysis for use by decision-makers; identifies and develops additive workloads which justify manpower requirements not included or documented in staffing standards; prepares routine and special reports as required; coordinates staffing standards development with functional representatives throughout the command.

Recommendation

In the lower-division baccalaureate/associate degree category, 1 semester hour in keyboarding, 3 in records management, 3 in basic management information systems, and 2 in report writing for entry-level (Phase I); add 3 semester hours in personnel supervision for intermediate level (Phase II). In the upper-division baccalaureate category, 2 semester hours in management information systems program management for intermediate level (Phase II); add 1 semester hour in management information systems program management, 3 in human resource management, 3 in management problems, and 3 in strategic planning/forecasting for senior level (Phase III) (2/96).

NEC-9515-001

EQUAL OPPORTUNITY PROGRAM SPECIALIST

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals holding NEC 9515 must complete either the resident or nonresident program of the Defense Equal Opportunity Management Institute and an Instructor Training course. They are selected from any rating in paygrades E-5 through E-9. Individuals must have at least six years prior service, be recommended by a commanding officer, and be screened by Equal Opportunity Management Specialists. They must exhibit stability in personal affairs and demonstrate effective speaking and writing skills. A minimum of one year is needed to effectively perform the wide range of competencies required for this NEC. A normal tour is 2—3 years; however, it is not unusual for the tour to be 5 years or longer.

Description

Individual possesses communication skills necessary to perform duties as an equal opportunity advisor to commanding officers or as equal opportunity trainers and facilitators at training centers; determines the elements of prejudice and discrimination and raises awareness of command to equal opportunity issues and policies; assists commanding officer in planning appropriate corrective actions; recognizes the cultural differences of personnel and analyzes how values and attitudes influence interpersonal behavior skills; trains facilitators, manages classrooms, and develops curricula; provides briefings on all aspects of equal opportunity training; facilitates formal training team and assessment team indoctrination courses, seminars, and workshops; uses techniques of group dynamics to persuade and motivate; formulates and revises equal opportunity directives; writes, edits, and publishes documents on equal opportunity matters; interviews, collects data, monitors progress, and prepares reports; conducts community relations activities.

Recommendation

In the upper-division baccalaureate category, 3 semester hours in instructional methods, 3 in equal opportunity resources and assessment, and 3 in applied communication skills (5/92).

NEC-9518-001

NAVLEAD INSTRUCTOR

Exhibit Dates: 3/90–Present.

Career Pattern

Individuals holding NEC 9518 are in paygrade E-6 and above. They request NEC 9518 and must be recommended by their commanding officer and screened by a review board of master training specialists and lead instructors in the areas of physical fitness, value systems, speaking and writing skills, brainstorming, and critical analysis. They must have successfully completed the NAVLEAD Instructor course (A-012-0045), observed the one-week NAVLEAD course, and participated in the NAVLEAD team building process with NAVLEAD facilitators for conducting initial lessons. They are evaluated using a Navy-wide NAVLEAD Instructors Staff Evaluation form.

Description

Serves as a facilitator in a group process in which Navy personnel acquire motivation skills, leadership competencies, value clarification, change agency, and adult learning techniques; the facilitator will exhibit skills in team teaching, group learning, and acquisition of new learning and resource information that will enhance instruction.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in speech communication. In the upper-division baccalaureate category, 3 semester hours in student teaching or for a practicum/internship in classroom or business training environments, 1 in interpersonal communication, 1 in group dynamics, and 1 in adult learning theory (3/92).

NEC-9519-001

CERTIFIED NAVY DRUG AND ALCOHOLISM COUNSELOR

Exhibit Dates: 1/90–Present.

Career Pattern

May have been selected for NEC 9519 from paygrades E-4 through E-9 in any rating. Will have completed all the requirements of the Navy Drug and Alcoholism Certification Program, including successful completion of the Navy Drug and Alcohol Counselor school, a minimum one-year internship as a Drug and Alcoholism Counselor Intern (NEC 9522), and successful completion of comprehensive oral and written certification examinations.

Description

Serves as a drug and alcoholism counselor; conducts assessment and intake interviews; conducts group counseling; prepares aftercare planning and referrals; conducts prevention, outreach, and other educational services related to alcohol and drug abuse and eating disorders; conducts program management and referral activities as required; must maintain the highest code of standards as required by the Counselor Code of Ethics; must maintain a current knowledge about alcohol abuse, alcoholism, drug abuse and addiction, and eating disorders.

Recommendation

In the upper-division baccalaureate category, 6 semester hours in a counseling or social work practicum (7/87).

NEC-9585-001

Recruiter Canvasser—Recruiter

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Provides qualified civilians for enlistment into the Navy; identifies target market populations; selects and uses appropriate supporting resources; prospects recruits; conducts interviews; enlists individuals; completes enlistments records; counsels rejected applicants; analyzes recruiting results; and formulates plans for improving recruiting, marketing, and processing.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques and 3 in oral communication. In the upper-division baccalaureate category, 3 semester hours for field experience in marketing (6/89).

NEC-9585-002

Recruiter Canvasser—Recruiter-In-Charge

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Able to perform the duties required for recruiter; provides leadership and supervision of Navy Recruiters at a recruiting station; uses resources to provide sufficient numbers of qualified applicants for enlistment; supervises office routines; directs office personnel; manages resources; conducts training of recruiters; processes documents; supervises the use of government vehicles; ensures the orderly flow of qualified applicants into the Navy.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, 3 in office administration, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in marketing (6/89).

NEC-9585-003

Recruiter Canvasser—Zone Supervisor

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3) Completion of an open-book test; 4) A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Able to perform the duties required for recruiter-in-charge; manages and supervises the use of resources in assigned recruiting zone; performs administrative and management functions; supervises subordinates at recruiting stations within a geographic region; develops and conducts training programs; provides input for budget; manages procurement effort within the region; evaluates functions of recruiting stations and their personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, 3 in office administration, and 3 in personnel supervision. In the upper-division baccalaureate category, 4 semester hours for field experience in marketing, 2 in vocational counseling, 3 in operations management, and 3 in personnel management (6/89).

NEC-9585-004

Recruiter Canvasser—Chief Recruiter

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Able to perform the duties required for zone supervisor; manages, supervises, and coordinates the use of all resources in a recruiting district, which may include portions of several states; performs administrative and management functions of planning, organizing, coordinating, training, and evaluating; writes reports; manages current budget and submits proposed budget; plans recruiting program; counsels zone and regional personnel; inspects recruiting stations; manages regional office.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, 3 in office administration, and 3 in personnel supervision. In the upper-division baccalaureate category, 6 semester hours for field experience in marketing, 2 in vocational counseling, 3 in operations management, 3 in sales management, and 3 in personnel management (6/89).

NEC-9585-005

RECRUITER CANVASSER—6-YEAR OBLIGOR/
NUCLEAR FIELD RECRUITER

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Manages and coordinates the use of Navy recruiting resources to provide sufficient numbers of qualified applicants for enlistment in all six-year advanced programs including nuclear programs; submits input to annual training plan; uses sales skills from preapproach to recruitment; submits funding requests; directs activities to enhance recruiting efforts, including local advertising, planning and implementing promotional activities, and conducting market analysis; manages the processing of waivers and qualifies applicants for selected programs.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques and 3 in oral communication. In the upper-division baccalaureate category, 4 semester hours for field experience in marketing and 3 for field experience in sales techniques (6/89).

NEC-9585-006

RECRUITER CANVASSER—NF/PRIOR SERVICE
(RZ) RECRUITER

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Manages the processing of qualified prior-service applicants for reenlistment; submits input to annual training plans; conducts market analysis and provides input to district marketing plans; verifies accuracy and completeness of applicants' paperwork; processes waiver requirements.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, and 2 in office administration. In the upper-division baccalaureate category, 5 semester hours for field experience in marketing (6/89).

NEC-9585-007

RECRUITER CANVASSER—LEADS SUPERVISOR

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC 9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Supervises the processing and tracking of all national and local leads forwarded to the field as prospects for enlistment/selection; compiles and submits reports; supervises personnel and operations in the tracking center; submits input to annual training plan including determining level of on-the-job training required; schedules and implements training and determines training effectiveness; manages resources including budget and personnel; monitors accuracy and completeness of advertising and direct mail compaigns.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, and 3 in personnel supervision. In the upper-division baccalaureate category, 3 semester hours for field experience in marketing, 1 in advertising, and 1 in training and development (6/89).

NEC-9585-008

RECRUITER CANVASSER—DELAYED ENTRY
PROGRAM (DEP) COORDINATOR

Exhibit Dates: 1/90–Present.

Career Pattern

Recruiter Canvassers are selected from the top 10 percent of any rating (paygrades E-4 through E-9). Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of the Navy Recruiter Orientation course; 2. A minimum of six months of supervised on-the-job training; during this time the Recruiter Qualification Standards must be completed and verified by the immediate supervisor; 3. Completion of an open-book test; 4. A two-hour oral examination before the Qualification Board. The regular tour is three years. Individuals in paygrade E-6 and above wishing to continue working in NEC

9585 may apply to the Career Recruiting Force and are chosen by a selection board. Advancement is achieved through a certification process. The four levels are Recruiter, Recruiter-In-Charge, Zone Supervisor, and Chief Recruiter. Before advancing to the next level, the individual must meet the qualification standards and pass an oral examination before the Qualification Board.May also have served as a member of a staff of a Navy Recruiting District which comprises part of one or more states, based on population centers. The district staff may have responsibility for assisting from 30 to 100 recruiting centers in matters of training, analyzing, processing, and managing resources. Specific staff assignments include 6-year Obligor/Nuclear Field Recruiter, Prior Service (RZ) Recruiter, Leads Supervisor, and Delayed Entry Program (DEP) Coordinator.

Description

Acts as liaison with recruiters handling persons who will have delayed entry into the Navy; establishes and maintains positive relationships on behalf of the recruiting district with members of the DEP; identifies potential problems with individuals in the DEP in order to retain enlisted personnel.

Recommendation

In the lower-division baccalaureate/associate degree category, 3 semester hours in sales techniques, 3 in oral communication, and 2 in office administration. In the upper-division baccalaureate category, 3 semester hours for field experience in marketing and 1 in vocational counseling (6/89).

NEC-9588-001

Collateral Duty Career Information Coordinator

Exhibit Dates: 1/90–Present.

Description

Counsels individuals and presents information concerning career opportunities, incentives, rights, benefits, and advantages of a Navy career; processes forms, documents, and records; advises and assists commands in organizing and implementing an aggressive enlisted retention program.

Recommendation

In the lower-division baccalaureate/associate degree category, 2 semester hours in record keeping and 1 in sales techniques. In the upper-division baccalaureate category, 3 semester hours for field experience in vocational counseling (6/89).

NEC-9589-001

Command Career Information Retention Counselor/Coordinator

Exhibit Dates: 1/90–Present.

Career Pattern

Individuals holding NEC 9589 are selected from the top 10 percent of any rating (paygrades E-4 through E-9). The regular tour is three years. Four steps are involved in the certification process toward the award of the NEC: 1. Successful completion of course A-501-00112. A minimum of six months of supervised on-the-job training; during this time the Qualifications Standards must be completed and verified by the immediate supervisor3. Completion of an open-book test4. A two-hour oral examination before the Qualification Board.

Description

Performs career retention duties afloat and ashore and coordinates the Navy-wide career retention program; explains reenlistment options, benefits, and obligations; discusses individual goals, job satisfaction, and military life with enlisted personnel; supervises and instructs career counselors; maintains a tickler file system to ensure that all personnel are counseled; processes forms, documents, and records for reenlistment; maintains command retention statistics; maintains publications and materials; coordinates and arranges group interviews; serves as the command's principal advisor on policies and regulations related to Navy career planning matters.

Recommendation

In the lower-division baccalaureate/associate degree category, 2 semester hours in instructional methods. In the upper-division baccalaureate category, 3 semester hours for field experience in counseling and 3 for field experience in management (6/89).

Appendix A

The Evaluation Systems

BACKGROUND

Early editions of the *Guide to the Evaluation of Educational Experiences in the Armed Services* were prepared in response to specific needs. Immediately after World War II, the consensus in the educational community was that the practice of granting blanket credit to World War I veterans as a reward for length of service was educationally unsound. Educators concluded that military learning experiences applicable to civilian curricula should be assessed by faculty for potential credit. Therefore, in December 1945, at the request of civilian educational institutions and the regional accrediting associations, the American Council on Education (ACE), established the Commission on Accreditation of Service Experiences, renamed the Commission on Educational Credit and Credentials in 1979, to evaluate military educational programs and to assist institutions in granting credit for such experiences. The first edition of the *Guide* was published in 1946.

The extension of the World War II G.I. Bill to include veterans of the Korean conflict, and the subsequent enrollment of many veterans in colleges and universities, created a need for the second edition, published in 1954.

The 1968 edition was prepared in anticipation of the increased enrollment of veterans resulting from the educational assistance provided under the Veterans Readjustment Benefits Act of 1966, and with the expectation that many would apply for educational credit for their learning experiences in the armed services. In addition, technological advances had necessitated major changes in service training, with a resulting need for new or revised educational credit recommendations.

The 1974 edition was prepared primarily to respond to three emerging considerations. First, because of the growth in vocational and technical programs and the emergence of the concept of postsecondary education, there was a need to evaluate courses for possible credit in the vocational and technical categories in addition to the baccalaureate and graduate categories of previous editions. Second, active-duty servicemembers were enrolling in increasing numbers in civilian educational programs and were seeking credit for military formal courses soon after completing their service school training. Third, credit recommendations were needed for the many courses initiated or revised by the military since 1968.

The 1974 edition marked the beginning of a new approach to reporting evaluations of formal military training. At its fall 1973 meeting, the Commission approved the concept of an ongoing *Guide* system. Elements of that system included the publication of biennial editions of the *Guide* through computerized composition, continual staff review of courses, and the computerized storage of course information for a more rapid updating of credit recommendation. In 1994, the computerized *Guide* system came in-house, and all data are managed by the Military Evaluations Program staff.

Over the years the recommendations contained in the *Guide* have assisted education institutions in granting credit to hundreds of thousands of servicemembers. Surveys showed that most of the nation's colleges and universities use the formal course recommendations in awarding credit to veterans and active-duty service personnel. The recommendations have been widely accepted because military formal courses share certain key elements with traditional postsecondary programs. They are formally approved and administered, are designed for the purpose of achieving learning outcomes, are conducted by qualified persons with specific subject-matter expertise, and are structured to provide for the reliable and valid assessment of student learning.

The recommendations reflect the Commission's belief that it is sound educational practice to give recognition for learning, no matter how or where that learning has been attained, provided that the learning is at the appropriate level, is in the appropriate area, and is applicable to an individual's postsecondary program of study.

Until 1975, however, no mechanism existed for providing recognition for the learning a servicemember attained through such learning experiences as self-instruction, on-the-job training, and work experience. In 1975, the Commission implemented a program for the evaluation of learning represented by demonstrated proficiency in Army enlisted military occupational specialties (MOS's). The MOS evaluation procedures were developed, tested, and refined during a feasibility study conducted by ACE and sponsored by the Department of the Army. Evaluators made recommendations for educational credit and advanced standing in apprentice training programs. Subsequently, the occupational assessment program of the Commission was expanded to include Navy general rates, ratings, warrant officers and limited duty officers, Army warrant officer MOS's, Navy warrant officer and limited duty officer specialties, Coast Guard enlisted ratings and warrant officers, and selected Marine Corps MOS's. A small number of Naval Enlisted Classifications (NECs) have also been evaluated.

In 1994, ACE published the *1954–1989 Guide to the Evaluation of Educational Experiences in the Armed Services.* It contains all courses and occupations with exhibit dates of 1954 to December 1989. **Please retain the *1954–1989 Guide* as a permanent reference and use it with the current *Guide to the Evaluation of Educational Experiences in the Armed Services.***

Beginning with the 1994 edition, the *Guide* contains all course and occupation exhibits with start dates of 1/90 and later. This is also true for the 1998 *Guide*.

THE COURSE EVALUATION SYSTEM

Courses listed in the *Guide* are service school courses conducted on a formal basis, i.e., approved by a central authority within each service and listed by the service in its catalog. These courses are conducted for a specified period of time with a prescribed course of instruction, in a structured learning situation, and with qualified instructors.

Most courses are given on a full-time basis. After 1981, ACE began evaluation of courses that are 45 academic hours in length. Prior to that time courses evaluated were at least of two weeks duration, or, if less than two weeks in length, the course had to include a minimum of 60 contact hours of instruction. Before 1973, the minimum length requirement was three weeks or 90 contact hours.

In the fall of 1973, the Commission approved the following procedures and guidelines for the evaluation of military formal courses.

The Evaluation Process

Courses are evaluated by teams of at least three subject-matter specialists (college and university professors, deans, and other academicians). Through discussion and the application of evaluation procedures and guidelines, team members reach a consensus on the amount and category of credit to be recommended.

Evaluation materials include the course syllabus, training materials, tests, textbooks, technical manuals, and examinations. Additional information may be obtained from discussions with instructors and program administrators, classroom observations, and examination of instructional equipment and laboratory facilities.

Evaluators have two major tasks for each course: the formulation of a credit recommendation and the preparation of the course's description. The credit recommendation consists of the category of credit, the number of semester hours recommended, and the appropriate subject area. Evaluators phrase the course description (which appears in the *Guide* exhibits under the headings Learning Outcomes or Objectives and Instruction) in terms meaningful to civilian educators. The course description supplements the credit recommendations by summarizing the nature of a given course.

Selection of Evaluators

Nominations for course evaluators are requested from postsecondary institutions, professional and disciplinary societies, education associations, other evaluators, and regional accrediting associations.

The criteria for the selection of formal course evaluators are as follows:

1. The area of an evaluator's competence will closely approximate the area of the training to be evaluated.
2. Preference will be given to candidates with five or more years of postsecondary teaching or administrative experience, including curriculum development.
3. Preference will be given to candidates who are generally receptive to the recognition of learning that occurs in a variety of settings.

An evaluator candidate is interviewed by a staff member to determine whether the individual meets the selection criteria.

An effort is also made to obtain a diverse geographic representation on the team. Subject-matter specialists represent a variety of postsecondary institutional types.

THE NAVY ENLISTED OCCUPATION CLASSIFICATION SYSTEM

The Navy Enlisted Rating Structure is used for classifying enlisted personnel, identifying personnel qualifications, and reporting personnel requirements and resources. It also provides the framework for enlisted career development through paths of advancement from paygrades E–1 (recruit) through E–9 (master chief petty officer). For ACE purposes, there are two main types of occupational classifications in the Enlisted Rating Structure:

1. *General Rates (Apprenticeships)*—Identifications assigned to personnel at paygrades E–1, E–2, and E–3. There are six general rates: Airman, Constructionman, Dentalman, Fireman, Hospitalman, and Seaman. Each general rate involves the performance of entry-level tasks and leads to one or more ratings.
2. *Ratings*—Broad enlisted occupations that encompass similar duties and functions and that, in most instances, provide paths of advancement and career development for personnel from paygrades E–4 (petty officer third class) to E–9 (master chief petty officer). **Figure 1** shows the relationships between petty officer designations and paygrades. A complete list of ratings and the occupational fields to which they belong is included as Appendix B. Ratings require performance of routine tasks at the lower paygrades and more difficult tasks at progressively higher paygrades.

General rates and ratings are organized in career patterns. A career pattern provides the normal path of advancement from recruit (paygrade E–1) to master chief petty officer (paygrade E–9). An example of a career pattern is shown in **Figure 2**.

Figure 1: *Relationships between petty officer designations and paygrades*

Petty officer classifications:	Paygrade
Petty Officer Third Class (PO3)	E–4
Petty Officer Second Class (PO2)	E–5
Petty Officer First Class (PO1)	E–6
Chief Petty Officer (CPO)	E–7
Senior Chief Petty Officer (SCPO)	E–8
Master Chief Petty Officer (MCPO)	E–9

Figure 2: *Example of a Navy enlisted career pattern*

		Paygrade
General rate:		
Airman (AN)	Airman Recruit	E–1
	Airman Apprentice	E–2
	Airman	E–3
Rating:		
Air Controlman (AC)	Air Controlman Third Class (AC3)	E–4
	Air Controlman Second Class (AC2)	E–5
	Air Controlman First Class (AC1)	E–6
	Chief Air Controlman (ACC)	E–7
	Senior Chief Air Controlman (ACCS)	E–8
	Master Chief Air Controlman (ACCM)	E–9

To supplement occupational information contained in the Navy Enlisted Rating Structure and to provide the necessary requirements for general rates and ratings, the Navy applies naval standards and occupational standards. Naval standards are tasks essential to the overall effectiveness of enlisted personnel in the performance of their duties. They include standards pertaining to military requirements, professional development, and naval tradition. Occupational standards identify the minimum tasks required for proficiency in general rates and ratings and provide the basis for the development of training and advancement requirements and of personnel policies and procedures. For both naval standards and occupational standards, each higher paygrade represents more complex duties, increased skills, and greater responsibility. Proficiency in a higher paygrade includes the ability to perform the tasks and meet the standards required for the preceding paygrades, as well as those required for the higher paygrade.

In addition to the Enlisted Rating Structure, the Navy Enlisted Occupational Classification System includes two other subsystems: The Navy Enlisted Classification (NEC) Structure and Special Qualifications. The NEC Structure supplements the Enlisted Rating Structure by identifying skills requiring more specific identification than that provided by general rates and ratings and that are not rating-wide requirements. Special Qualifications identify highly specialized occupational entities that cross several occupational areas and define the requirements of these areas. Selected NECs have been evaluated by ACE.

The Navy Enlisted Evaluation and Advancement System

The Navy regularly evaluates the occupational proficiency of its men and women. In fact, the demonstration of occupational proficiency is directly linked to the advancement system. Only those individuals who have (1) demonstrated that they can perform the tasks required for the next higher paygrade, (2) completed the appropriate correspondence and/or residence courses for the next higher paygrade, (3) served a minimum length of time in their paygrade and in the service, and (4) been recommended by their commanding officer are allowed to take the advancement examination.

One of the primary advancement processes is the Navy-wide written examination for paygrades E–4 through E–7 of each rating. It is a 150-item multiple-choice test that is based on the occupational standards and tasks for each paygrade of a given rating. In addition, the applicable military/leadership examination must also be passed by the candidates. Personnel are not advanced in their rating until they have demonstrated that they are proficient in the next higher paygrade of the rating.

Examinations for Petty Officer Third Class, Petty Officer Second Class, and Petty Officer First Class (paygrades E–4, E–5, and E–6) are administered semiannually. For Chief Petty Officer (E–7), the examination is administered annually and determines whether the person's military record will be screened by the Chief Petty Officer Selection Board. This selection board, which meets annually, ultimately determines a person's advancement to paygrade E–7. Promotion to Senior Chief Petty Officer (E–8) and Master Chief Petty Officer (E–9) is through the Senior/Master Chief Petty Officer Selection Board, which meets annually. Examinations for paygrade E–3 are administered by unit commanding officers when the individual has demonstrated readiness to take it. Written examinations are not used for paygrade E–2. Make-up tests are made available for personnel who cannot take the test on the specified date because of extenuating circumstances.

A final multiple score is computed for each individual who takes the Navy-wide advancement examination. The final multiple score is composed of the following factors:

Factor	*E–4/5*	*E–6*	*E–7*
Written Examination Score	80	80	80
Performance Examination Score	70	92	52
Number of Years in Service	30	34	—
Number of Years in Paygrade	30	34	—
Medals and Awards	10	12	—
Passed-but-not advanced (PNA) Points	10	12	—
TOTAL	230	264	132

The last factor included above, PNA points, applies to those individuals who passed the previous written examination and demonstrated they were qualified for advancement but were not advanced. This situation occurs when there is a scarcity of openings for advancement in a paygrade of a given rating and a person's final multiple score is not high enough for him or her to compete successfully with others in that paygrade, or an opening is not available.

Subject-matter specialists confirm the content validity of the tests in the course of conducting evaluations.

THE NAVY WARRANT OFFICER AND LIMITED DUTY OFFICER CLASSIFICATION SYSTEM

Warrant officers are technical officer specialists who perform duties that are technically oriented and acquired through experience and training and that are limited in scope in relation to other officer categories.

Limited duty officers (LDOs) are technically oriented officers who perform duties that are limited to specific occupational fields, that require authority greater than that normally expected of a warrant officer, and that require strong managerial skills.

Warrant officer and LDO specialties are normally identified by four digits, with each successively providing more precise identification of the individual holder.

A warrant officer can be identified by a "7" in the first digit, and an LDO by a "6".

Only the first three characters are evaluated by ACE; the fourth digit, representing naval status, appears in the exhibits as an "X".

There are four grades of warrant officers: Warrant Officer, W–1 (WO1) (discontinued in 1975); Chief Warrant Officer, W–2 (CWO–2); Chief Warrant Officer, W–3 (CWO–3); and Chief Warrant Officer, W–4 (CWO–4). The grades reflect salary increases and are normally indicative of the length of time a person has served as a warrant officer. *The grades do not signify differences in job duties.* A position requiring a warrant officer may be filled by any qualified warrant from CWO–2 to CWO–4.

LDOs are commissioned officers in the ranks of ensign (O–1) through captain (O–6).

Selection and Evaluation

The warrant officer program provides an opportunity for appointment to commissioned warrant officer status for select senior enlisted personnel. The LDO program provides an opportunity for appointment to regular commissioned status for selected male warrant officers and senior male enlisted personnel. Potential candidates normally improve their skills through on-the-job training and specialized training through schools and correspondence courses.

Selection boards, composed of senior officers of experience, maturity, and varied backgrounds, are convened by the Secretary of the Navy annually. Each candidate's qualifications are evaluated, and the board recommends those deemed best qualified.

Selection boards also meet annually to recommend those qualified for promotion. Performance is the major key to promotion. The Navy's selection procedure for promotion has always recognized the outstanding performer; mediocre performers are judged not to be competitive enough. Evaluations are recorded on Fitness Reports, an objective appraisal of performance by the senior reporting officer.

Time-in-grade is another criterion for promotion. Until 1975, the time-in-grade requirements were:

Promotion to W–2: 1 year in grade W–1
Promotion to W–3: 4 years in grade W–2
Promotion to W–4: 4 years in grade W–3.

After 1975, grade W–1 was discontinued; time-in-grade requirements are now:

Promotion to CWO–3 (temporary):
3 years in grade CWO–2
Promotion to CWO–3 (permanent):
6 years in grade CWO–2
Promotion to CWO–4 (temporary):
3 years in grade CWO–3
Promotion to CWO–4 (permanent):
6 years in grade CWO–3.

ACE OCCUPATION EVALUATION SYSTEM

The ACE evaluation system for occupations has three major components: the selection of evaluators, the materials required for evaluation, and the procedures and guidelines evaluators use in reaching decisions and making recommendations.

Selection of Evaluators

Nominations for evaluators are requested from postsecondary institutions, professional and disciplinary societies; education associations, and regional accrediting associations.

The criteria for selection of evaluators are as follows:

1. The area of an evaluator's competence will closely approximate the area of the occupation to be evaluated.
2. Preference will be given to candidates with five or more years of postsecondary teaching or administrative experience, including curriculum development.
3. Preference will be given to candidates who are generally receptive to the recognition of learning that occurs in a variety of settings.

An evaluator candidate is interviewed by a staff member to determine whether the individual meets the selection criteria.

An effort is also made to obtain a diverse geographic representation on the team. Subject-matter specialists represent a variety of postsecondary institutional types.

Materials Required for Evaluation

In order to make a recommendation, evaluators first identify the skills, competencies, and knowledge associated with a given occupational specialty. The materials relevant for each evaluation are made available to staff members and evaluators by the Navy. Materials include the official Navy manuals that describe the duties and qualifications for each occupation, the *Bibliography for Advancement Study*, rate training manuals, and other publications used by Navy enlisted men and women in the day-to-day performance of their duties and to prepare for their advancement examinations; and the advancement examination. Additional information is obtained by observing and interviewing Navy servicemembers on-the-job during site visits to Navy installations.

The Evaluation Process

Evaluators identify the skills, competencies, and knowledge required of Navy servicemembers who are qualified in a given occupational specialty and relate that demonstrated learning to the same attributes acquired by students who have completed a comparable postsecondary course or curriculum. Because the evaluations are based on a comparison of learning outcomes, the amount of time a given enlisted individual may have spent acquiring occupational proficiency is not taken into consideration. The emphasis is on translating the learning demonstrated through occupational proficiency into terms used in formal civilian postsecondary education systems to recognize the same learning. This reflects the belief of the Commission that the value of learning is not dependent on where or how the learning occurs.

Evaluation teams are assigned three tasks in the evaluation process: to identify the learning represented by occupational proficiency by reviewing the written materials and by observing servicemembers performing their occupation and interviewing them and their supervisors; to prepare a description of the duties, skills, competencies, and knowledge required for each specialty; and to make recommendations for each specialty based on discussion and consensus.

Throughout the evaluation process, evaluators exercise professional judgment in applying the evaluative criteria and procedures. This position reflects the Commission's belief that sound educational evaluation is more dependent on professional judgment and expertise than on rigid application of criteria.

The Commission continually reviews its criteria and procedures. Evaluators are encouraged to provide feedback and recommendations for consideration by the Commission.

CREDIT CATEGORIES

Educational credit is a concept used by postsecondary institutions to quantify and record a student's successful completion of a unit of study. Postsecondary education consists of courses and programs of instruction for persons who are high school graduates or the equivalent, or who are beyond compulsory school age. ACE evaluators utilize the following categories of educational credit when formulating credit recommendations:

Vocational Certificate. This category describes course work of the type normally found in certificate or diploma (nondegree) programs that are usually a year or less in length and designed to provide students with occupational skills. Course content is specialized, and the accompanying shop, laboratory, or similar practical components emphasize procedural more than analytical skills.

Lower-Division Baccalaureate/Associate Degree. This category describes course work of the type normally found in the first two years of a baccalaureate program and in programs leading to the associate degree. The instruction stresses development of analytical abilities at the introductory level. Verbal, mathematical, and scientific concepts associated with an academic discipline are introduced, as are basic principles. Occupationally oriented courses in this category are normally designed to prepare a student to function as a technician in a particular field.

Upper-Division Baccalaureate. This category describes courses of the type found in the last two years of a baccalaureate program. The courses involve specialization of a theoretical or analytical nature beyond the introductory level. Successful performance by students normally requires prior study in the area.

Graduate Degree. This category describes courses with content of the type found in graduate programs. These courses often require independent study, original research, critical analysis, and the scholarly and professional application of the specialized knowledge or discipline. Students enrolled in such courses normally have completed a baccalaureate program.

Semester Hours

Credit recommendations for courses are not derived by simple arithmetic conversion. Evaluators exercise professional judgment and consider only those competencies that can be equated with civilian postsecondary curricula. Intensive courses offered by the military do not necessarily require as much outside preparation as many regular college courses. Evaluators consider the factors of pre- and post-course assignments, prior work-related experience, the concentrated nature of the learning experience, and the reinforcement of the course material gained in the subsequent work setting.

The recommendations for Navy ratings are based on the skills, competencies, and knowledge gained, as demonstrated through proficiency in the rating, without reference to how much time elapsed during the learning process. The semester hour is used as a standard to express how many semester hours of appropriate course work a student would normally complete to attain the same learning outcomes or attest to the same level of competency.

Credit recommendations are expressed in semester credit hours. In determining semester hour recommendations, evaluators will be guided by, but not restricted to, the following standard definitions:

1. One semester credit hour for the equivalent of 15 hours of classroom contact plus 30 hours of outside preparation; or
2. One semester credit hour for the equivalent of 30 hours of laboratory work plus necessary outside preparation, normally expected to be 15 hours; or
3. One semester credit hour for the equivalent of not less than 45 hours (contact hours) of shop instruction.

Other Resources

The Defense Activity for Non-Traditional Education Support (DANTES) maintains the educational records of the servicemembers who have completed DANTES Subject Standardized Tests (DSST's), CLEP examinations, USAFI (United States Armed Forces Institute), and GED tests.

Before July 1, 1974, the results of courses and tests taken under the auspices of USAFI (United States Armed Forces Institute, disestablished 1974) are available from the DANTES Program:

DANTES Program
The Chauncey Group International
P.O. Box 6605
Princeton, NJ 08541-6605

There is a $10.00 fee charged for *each* transcript requested. There is no charge for transcripts sent to military Test Control Officers (TCOs) for counseling purposes.

For GED tests taken overseas after July 1, 1974 write to:

GED Testing Service
One Dupont Circle
Washington, DC 2036-1193

For GED tests taken within the United States after July 1, 1974, write to the Department of Education in the state where the test was taken.

The results of DANTES Subject Standardized Tests (DSSTs) and CLEP tests taken under the auspices of the DANTES Program after July 1, 1974, are available from:

DANTES Program
The Chauncey Group International
P.O. Box 6604
Princeton, NJ 08541-6604
Telephone: 609-720-6740

A fee of $8.00 is charged for *each* transcript requested. A transcript may include any or all DSST and CLEP examinations taken while in the military. There is no charge for transcripts sent to military Test Control Officers (TCOs) for counseling purposes.

You may call the DANTES Progra at 609-720-6740 to order a transcript request form. Or you may request a transcript if you include all of the following information along with the appropriate fee:

Name (include all names tests will be registered under)

Your current address and phone number

Your Social Security Number

The address to which you would like your transcript mailed

Which test you would like included on the transcript; i.e. passing scores only, certain tests, etc.

Your signature is required -- this authorizes the DANTES Program to release the information

Transcript request fees may be paid by check or money order payable to the DANTES program. Payment may also be made with a Master Card or Visa (please include the expiration date). If paying by credit card, you may fax your request to 609-720-6800.

Records of individuals tested by the Veteran's Administration after October 1, 1989, may be obtained from:

Manager
Military Testing
GED Testing Service
American Council on Education
One Dupont Circle, Suite 250
Washington, DC 20036-1163

Appendix B

Sample Military Records

- DD Form 295 (1986) Application for the Evaluation of Learning Experiences During Military Service, page B-2
- DD Form 214 (1979) Certificate of Release or Discharge from Active Duty, page B-6
- DD Form 214 (1988) Certificate of Release or Discharge from Active Duty, page B-7
- Sample Course Completion Certificate, page B-8
- NAVPERS 1070/604 (1981) Navy Occupational/Training and Awards History, page B-9
- NAVPERS 1070/604 (1991) Enlisted Qualification History, page B-12
- NAVPERS 1070/613 (1981) Administrative Remarks, page B-16
- NAVPERS 1610/2 (1995) Fitness Report & Counseling Record (E7–O6), page B-17
- NAVPERS 1611/1 (1982) Report on the Fitness of Officers, page B-19
- NAVPERS 1616/24 (1983) Enlisted Performance Evaluation Report, page B-21
- NAVPERS 1616/26 (1995) Evaluation Report & Counseling Record (E1–E6), page B-23
- Letter of Designation, page B-25
- Request Pertaining to Military Records (Standard Form 180), page B-26

APPLICATION FOR THE EVALUATION OF LEARNING EXPERIENCES DURING MILITARY SERVICE

____
(Date)

TO: (Name and address of educational institution, agency, or employer)

EVALUATION REQUEST FOR:

____
(Name of Applicant)

____
(Social Security Number)

ATTENTION:

Dear Official:

The applicant named above has requested that the attached summary of educational achievements, accomplished while in the Armed Forces of the United States, be forwarded to you for review and evaluation.

The American Council on Education publishes the *Guide to the Evaluation of Educational Experiences in the Armed Services* which includes postsecondary credit evaluations of military learning experiences. The 1954 edition of the *Guide* contains recommendations for formal courses offered by the Armed Services during the period 1941 to 1954. The current edition contains credit recommendations for (1) military training courses offered after 1954; (2) Army military occupational specialties (MOS's) for enlisted personnel and warrant officers; (3) ratings held by Navy and Coast Guard enlisted personnel; and (4) occupational designators held by Navy and Coast Guard warrant officers and Navy limited duty officers. In addition to recommendations for semester hour credits, some Army enlisted MOS's and Navy ratings also have recommendations for advanced standing in apprentice training programs.

The American Council on Education maintains an advisory service to provide credit recommendations for courses and tests, MOS's, ratings, and other occupations evaluated after the publication date of the current *Guide*. Credit recommendations are provided to officials of schools, state departments of education or other educational institutions, employers, apprenticeship training directors, labor union and trade association officials, military education officers and applicants. *Credit recommendations are not provided to officials at the applicant's request.* Authorized persons may write directly to the Military Evaluations Program Office, American Council on Education, One Dupont Circle, N.W., Washington, D.C. 20036-1193.

The evaluation of this applicant's learning experiences, as well as any guidance which you may provide, should be sent directly to the applicant at the address shown in block 6 on page 3. Your interest is genuinely appreciated.

Sincerely,

____
(Education Officer)

DD Form 295, NOV 86 *Previous editions are obsolete.* Page 1 of 4 Pages
[illegible]

Privacy Act Statement

AUTHORITY: 5 USC 301 and EO 9397, November 1943 (SSN).

PRINCIPAL PURPOSE: To permit authorized agencies to evaluate military experience for academic placement and/or employment.

ROUTINE USES: Used at the request of the individual for the evaluation of military training.

DISCLOSURE: Voluntary; however, failure to provide requested information impedes the evaluation process by educational institutions or potential employers.

INSTRUCTIONS TO APPLICANT

DD Form 295 is for your convenience in applying for evaluation of your educational experiences during military service. Give as much detailed information as possible. Include additional information on separate sheets, if necessary.

You are encouraged to write a preliminary letter to the school or agency concerned, explaining your interest in its evaluation of your records for the continuance of your education. Training, correspondence study, or special experiences not described on this form, which you believe would be of interest to those reviewing your case, should be included in this letter.

The applicant should:

a. Complete items 1 through 15.

b. If you have attended college or completed any college correspondence courses, ask that college to send a transcript to the Registrar of the evaluating agency that this form is addressed to. DO NOT LIST ANY COLLEGE OR UNIVERSITY COURSES ON THIS FORM.

c. If you have completed any college-level standardized examinations for credit, such as USAFI or DANTES Subject Standardized Tests, or CLEP, ask the appropriate agency to send a score report to the Registrar of the evaluating agency that this form is addressed to. DO NOT LIST ANY EXAMINATIONS ON THIS FORM.

d. After completion, submit this DD Form 295 to the Certifying Officer.

INSTRUCTIONS TO CERTIFYING OFFICER

(Custodian of Personnel Records)

DD Form 295 is intended to provide factual information that schools and other evaluating agencies require for evaluation of the applicant's educational achievement. CERTIFYING OFFICERS WILL NOT MAKE RECOMMENDATIONS REGARDING CREDIT TO BE AWARDED.

The certifying officer should:

a. Complete items 16 through 18.

b. Insure that the information provided in Section II is documented in the applicant's Service Record. Names of schools or courses should not be abbreviated.

c. Send this DD Form 295 to the Education Officer.

INSTRUCTIONS TO EDUCATION OFFICER

The education officer should:

a. Complete item 19.

b. Counsel the service member.

c. Complete page 1. The name and address of the evaluating agency should be the same as that listed at the top of page 3 of this form.

PAGE 1 IS IN ADDITION TO, AND NOT A SUBSTITUTE FOR, THE LETTER TO BE WRITTEN TO THE EVALUATING AGENCY BY THE APPLICANT.

d. Mail DD Form 295 directly to the designated evaluating agency.

BEST COPY AVAILABLE

APPLICATION FOR THE EVALUATION OF LEARNING EXPERIENCES DURING MILITARY SERVICE

TO *(Name and address of educational institution, agency, or employer)*

SECTION I - TO BE COMPLETED BY APPLICANT

1. NAME *(Last, First, Middle Initial)*	2. GRADE/RANK OR RATING	3. SOCIAL SECURITY NO.	4. PREVIOUS SERVICE NUMBER(S)

5. PRESENT BRANCH OF SERVICE *(Includes National Guard and Reserve components)*
☐ a. ARMY ☐ b. NAVY ☐ c. AIR FORCE ☐ d. MARINE CORPS ☐ e. COAST GUARD

6. APPLICANT'S MAILING ADDRESS FOR REPLY FROM EDUCATIONAL INSTITUTION

7. DATE OF BIRTH	8. PERMANENT HOME ADDRESS

CIVILIAN EDUCATION

9. HIGHEST GRADE OF SCHOOL COMPLETED *(X one)*
☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12

10. HIGHEST YEAR OF COLLEGE COMPLETED *(X one)*
☐ a. NONE ☐ b. FRESHMAN ☐ c. SOPHOMORE ☐ d. JUNIOR ☐ e. SENIOR

11. COLLEGE DEGREE EARNED *(X if applicable)*
☐ a. ASSOCIATE ☐ b. BACHELOR

12. EDUCATIONAL INSTITUTION LAST ATTENDED

a. NAME	b. MAILING ADDRESS

13. USAFI COURSES COMPLETED IN SERVICE (Prior to 1974)
(The applicant should request a transcript for all courses to be forwarded directly to the evaluating agency.)

a. CATALOG NUMBER AND TITLE OF COURSE *(If no courses were taken, print NONE)*	b. METHOD OF STUDY *(Correspondence, self-teaching, locally conducted classes, etc.)*	c. LOCATION WHERE COMPLETED	d. DATE COURSE COMPLETED
(1)			
(2)			
(3)			
(4)			
(5)			
(6)			
(7)			
(8)			

14. MILITARY CORRESPONDENCE COURSE COMPLETED
(The applicant should attach a copy of the course completion letter or certificate.)

a. COURSE NAME *(If no courses were taken, print NONE)*	b. COURSE SPONSOR *(AIPD, MCI, ECI, CGI)*	c. DATE COURSE COMPLETED
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		

15. APPLICANT CERTIFICATION: I have read the Privacy Act Statement on Page 2.

a. SIGNATURE	b. DATE SIGNED

BEST COPY AVAILABLE

SECTION II - TO BE COMPLETED BY CERTIFYING OFFICER

(Read instructions on Page 2 before completing this page)

16. FORMAL SERVICE SCHOOLS ATTENDED *(If longer than one week) (If none, print NONE)*

a. COURSE TITLE	b. MILITARY COURSE NUMBER	c. NAME OF SCHOOL, CITY, STATE	d. DATE ENTERED	e. LENGTH[1] *(In weeks)*	f. DATE COMPLETED	g. FINAL MARK AND/OR CLASS STANDING[2]	19. ACE GUIDE COURSE OR OCCUPATION IDENTIFICATION NO. *(To be filled out in Education Center)*
(1)							
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

17. MILITARY OCCUPATIONAL HISTORY

a. MILITARY SPEC. CODE *(MOS, AFSC, Rate, etc.)*[3]	b. MILITARY OCCUPATIONAL TITLE *(Do Not Abbreviate)*	c. DATES HELD		d. MOS/SQT SCORE *(For Army Enlisted Personnel[4])*	
		From *(Mo/yr)*	To *(Mo/yr)*		
(1)					
(2)					
(3)					

NOTES:

[1] Print SP if course length was self paced.

[2] If information is available, give grade received. If class standing is shown, give number in class, e.g., 10 in 241.

[3] List most recent skill levels or grade.

[4] MOS/SQT Evaluation Score and Date of evaluation.

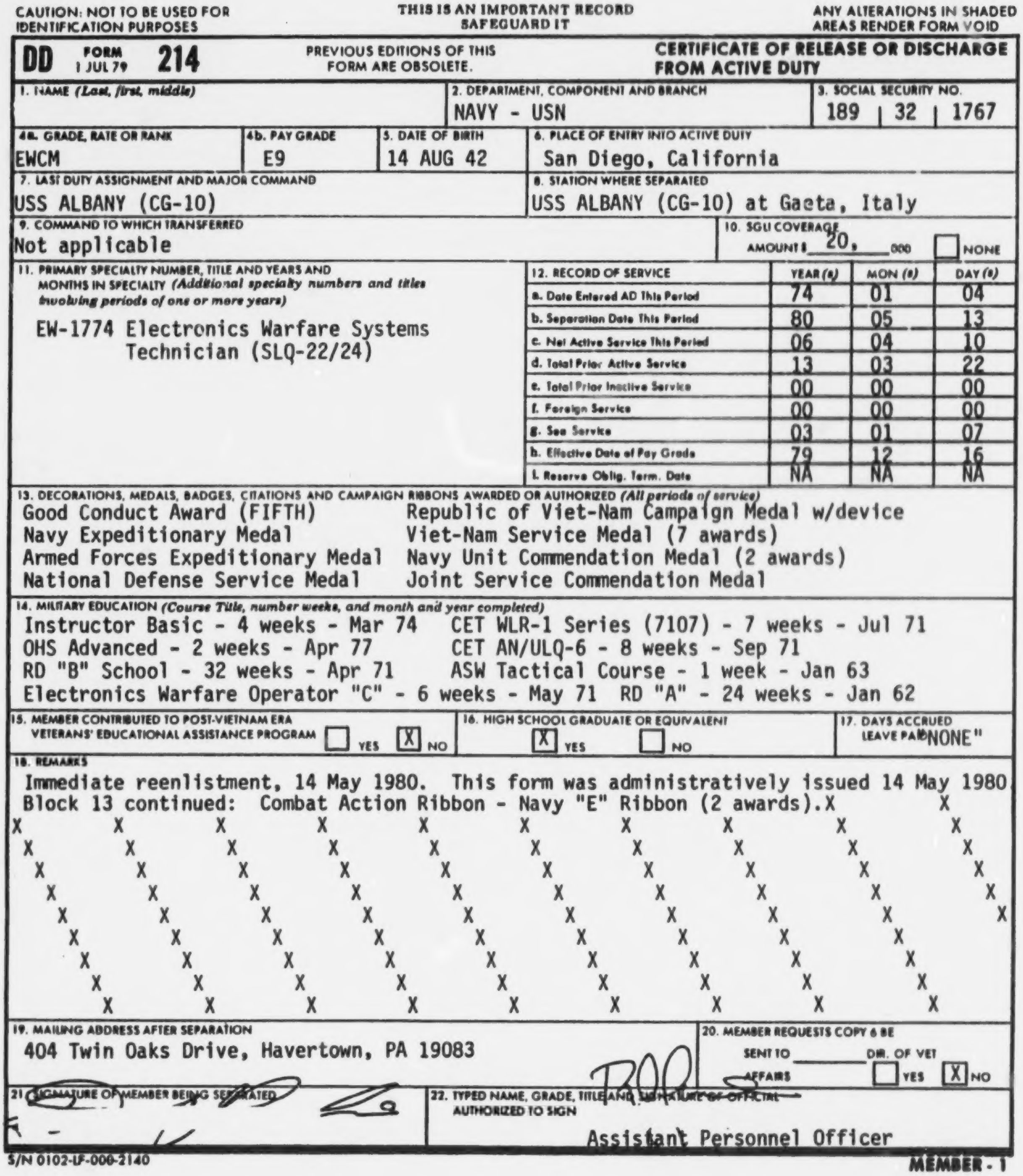
THIS APPLICATION MUST BE SIGNED BY AN OFFICER OR A DULY AUTHORIZED NONCOMMISSIONED OFFICER.

I certify that the information contained herein has been compared with official records, and that this information is correct.

18. CERTIFYING OFFICER

a. NAME *(Print or Type)*	b. GRADE/RANK	c. MILITARY ADDRESS *(Include ZIP Code)*
d. SIGNATURE	e. DATE SIGNED	

☆ U.S. Government Printing Office: 1988—201-424/70707



CAUTION: NOT TO BE USED FOR IDENTIFICATION PURPOSES

THIS IS AN IMPORTANT RECORD SAFEGUARD IT

ANY ALTERATIONS IN SHADED AREAS RENDER FORM VOID

DD FORM 1 JUL 79 214

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

CERTIFICATE OF RELEASE OR DISCHARGE FROM ACTIVE DUTY

1. NAME *(Last, first, middle)*

2. DEPARTMENT, COMPONENT AND BRANCH: NAVY - USN

3. SOCIAL SECURITY NO.: 189 | 32 | 1767

4a. GRADE, RATE OR RANK: EWCM

4b. PAY GRADE: E9

5. DATE OF BIRTH: 14 AUG 42

6. PLACE OF ENTRY INTO ACTIVE DUTY: San Diego, California

7. LAST DUTY ASSIGNMENT AND MAJOR COMMAND: USS ALBANY (CG-10)

8. STATION WHERE SEPARATED: USS ALBANY (CG-10) at Gaeta, Italy

9. COMMAND TO WHICH TRANSFERRED: Not applicable

10. SGLI COVERAGE AMOUNT $ 20, 000 ☐ NONE

11. PRIMARY SPECIALTY NUMBER, TITLE AND YEARS AND MONTHS IN SPECIALTY *(Additional specialty numbers and titles involving periods of one or more years)*

EW-1774 Electronics Warfare Systems Technician (SLQ-22/24)

12. RECORD OF SERVICE	YEAR(s)	MON(s)	DAY(s)
a. Date Entered AD This Period	74	01	04
b. Separation Date This Period	80	05	13
c. Net Active Service This Period	06	04	10
d. Total Prior Active Service	13	03	22
e. Total Prior Inactive Service	00	00	00
f. Foreign Service	00	00	00
g. Sea Service	03	01	07
h. Effective Date of Pay Grade	79	12	16
i. Reserve Oblig. Term. Date	NA	NA	NA

13. DECORATIONS, MEDALS, BADGES, CITATIONS AND CAMPAIGN RIBBONS AWARDED OR AUTHORIZED *(All periods of service)*

Good Conduct Award (FIFTH)
Navy Expeditionary Medal
Armed Forces Expeditionary Medal
National Defense Service Medal
Republic of Viet-Nam Campaign Medal w/device
Viet-Nam Service Medal (7 awards)
Navy Unit Commendation Medal (2 awards)
Joint Service Commendation Medal

14. MILITARY EDUCATION *(Course Title, number weeks, and month and year completed)*

Instructor Basic - 4 weeks - Mar 74
OHS Advanced - 2 weeks - Apr 77
RD "B" School - 32 weeks - Apr 71
CET WLR-1 Series (7107) - 7 weeks - Jul 71
CET AN/ULQ-6 - 8 weeks - Sep 71
ASW Tactical Course - 1 week - Jan 63
Electronics Warfare Operator "C" - 6 weeks - May 71
RD "A" - 24 weeks - Jan 62

15. MEMBER CONTRIBUTED TO POST-VIETNAM ERA VETERANS' EDUCATIONAL ASSISTANCE PROGRAM ☐ YES ☒ NO

16. HIGH SCHOOL GRADUATE OR EQUIVALENT ☒ YES ☐ NO

17. DAYS ACCRUED LEAVE PAID "NONE"

18. REMARKS

Immediate reenlistment, 14 May 1980. This form was administratively issued 14 May 1980
Block 13 continued: Combat Action Ribbon - Navy "E" Ribbon (2 awards).X X
X X X X X X X X X X
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19. MAILING ADDRESS AFTER SEPARATION: 404 Twin Oaks Drive, Havertown, PA 19083

20. MEMBER REQUESTS COPY 6 BE SENT TO DIR. OF VET AFFAIRS ☐ YES ☒ NO

21. SIGNATURE OF MEMBER BEING SEPARATED

22. TYPED NAME, GRADE, TITLE AND SIGNATURE OF OFFICIAL AUTHORIZED TO SIGN

Assistant Personnel Officer

S/N 0102-LF-000-2140

MEMBER - 1

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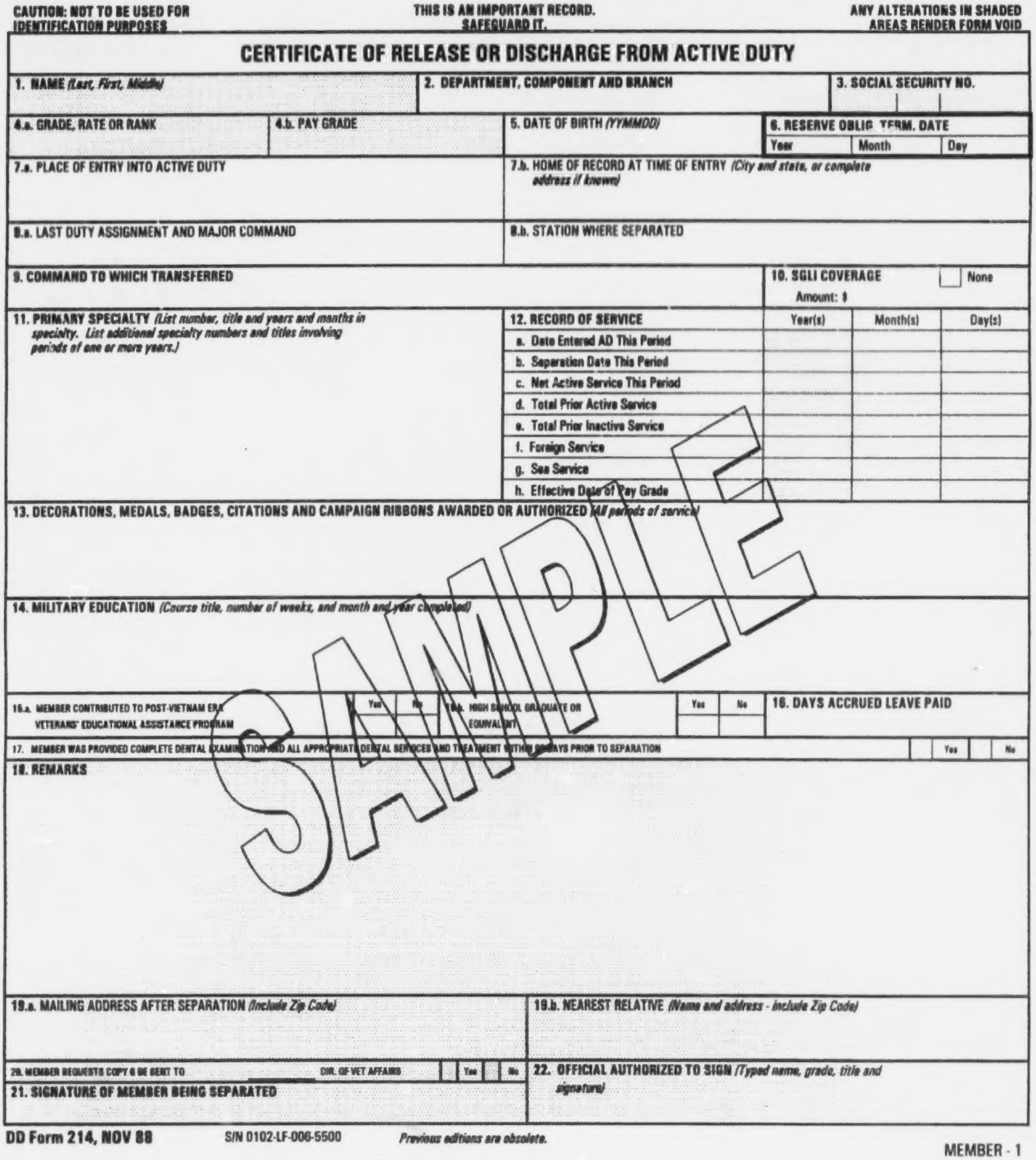

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THIS IS AN IMPORTANT RECORD. SAFEGUARD IT.

ANY ALTERATIONS IN SHADED AREAS RENDER FORM VOID

CERTIFICATE OF RELEASE OR DISCHARGE FROM ACTIVE DUTY

1. NAME *(Last, First, Middle)*

2. DEPARTMENT, COMPONENT AND BRANCH

3. SOCIAL SECURITY NO.

4.a. GRADE, RATE OR RANK

4.b. PAY GRADE

5. DATE OF BIRTH *(YYMMDD)*

6. RESERVE OBLIG. TERM. DATE Year Month Day

7.a. PLACE OF ENTRY INTO ACTIVE DUTY

7.b. HOME OF RECORD AT TIME OF ENTRY *(City and state, or complete address if known)*

8.a. LAST DUTY ASSIGNMENT AND MAJOR COMMAND

8.b. STATION WHERE SEPARATED

9. COMMAND TO WHICH TRANSFERRED

10. SGLI COVERAGE ☐ None
Amount: $

11. PRIMARY SPECIALTY *(List number, title and years and months in specialty. List additional specialty numbers and titles involving periods of one or more years.)*

12. RECORD OF SERVICE	Year(s)	Month(s)	Day(s)
a. Date Entered AD This Period			
b. Separation Date This Period			
c. Net Active Service This Period			
d. Total Prior Active Service			
e. Total Prior Inactive Service			
f. Foreign Service			
g. Sea Service			
h. Effective Date of Pay Grade			

13. DECORATIONS, MEDALS, BADGES, CITATIONS AND CAMPAIGN RIBBONS AWARDED OR AUTHORIZED *(All periods of service)*

14. MILITARY EDUCATION *(Course title, number of weeks, and month and year completed)*

15.a. MEMBER CONTRIBUTED TO POST-VIETNAM ERA VETERANS' EDUCATIONAL ASSISTANCE PROGRAM ☐ Yes ☐ No

15.b. HIGH SCHOOL GRADUATE OR EQUIVALENT ☐ Yes ☐ No

16. DAYS ACCRUED LEAVE PAID

17. MEMBER WAS PROVIDED COMPLETE DENTAL EXAMINATION AND ALL APPROPRIATE DENTAL SERVICES AND TREATMENT WITHIN 90 DAYS PRIOR TO SEPARATION ☐ Yes ☐ No

18. REMARKS

19.a. MAILING ADDRESS AFTER SEPARATION *(Include Zip Code)*

19.b. NEAREST RELATIVE *(Name and address - include Zip Code)*

20. MEMBER REQUESTS COPY 6 BE SENT TO ________ **DIR. OF VET AFFAIRS** ☐ Yes ☐ No

21. SIGNATURE OF MEMBER BEING SEPARATED

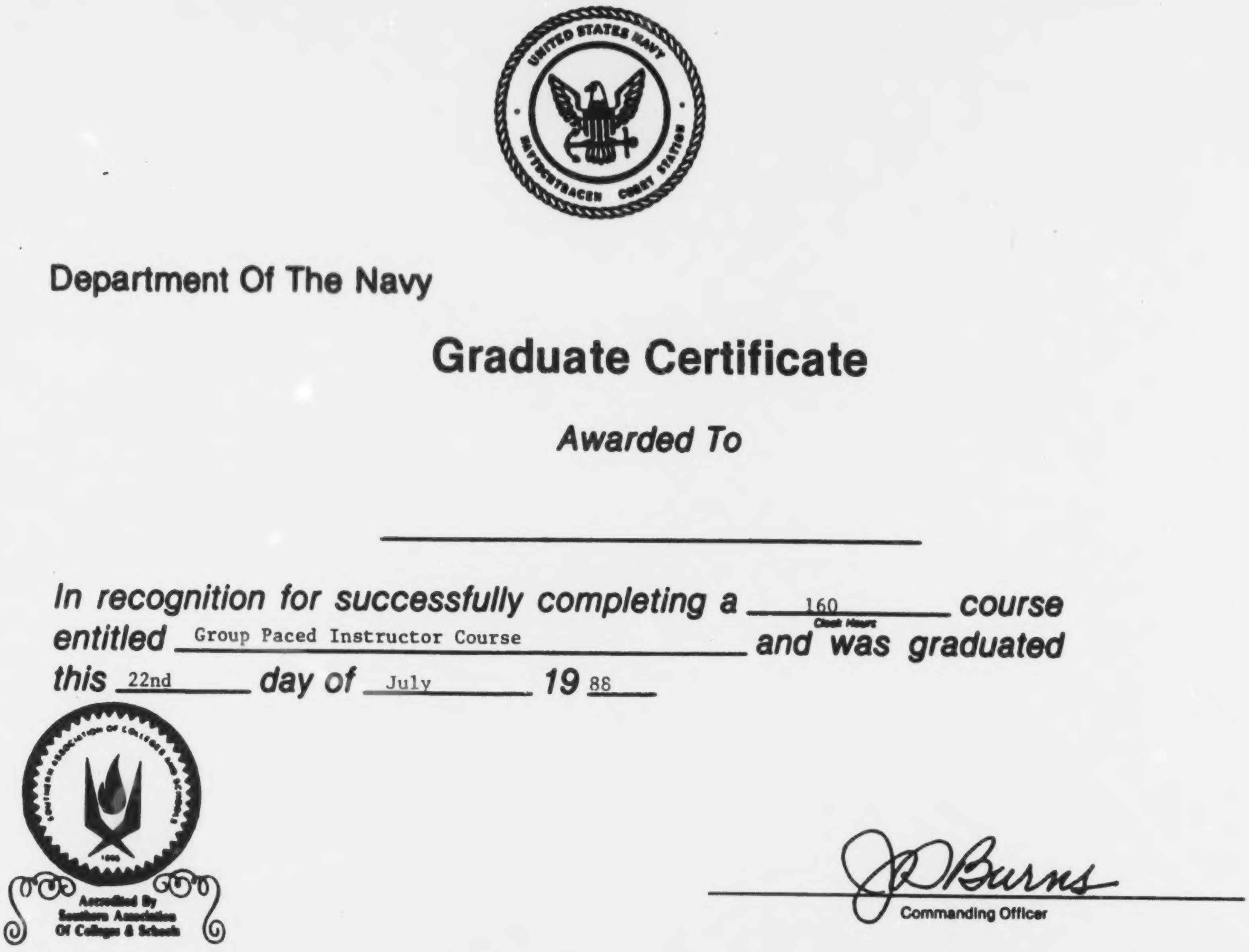
22. OFFICIAL AUTHORIZED TO SIGN *(Typed name, grade, title and signature)*

SAMPLE

DD Form 214, NOV 88 S/N 0102-LF-006-5500 *Previous editions are obsolete.*

MEMBER - 1

Sample Course Completion Certificate



UNITED STATES NAVY
NAVTECHTRACEN CORRY STATION

Department Of The Navy

Graduate Certificate

Awarded To

____

In recognition for successfully completing a 160 (Clock Hours) *course entitled* Group Paced Instructor Course *and was graduated this* 22nd *day of* July *19*88

Accredited By Southern Association Of Colleges & Schools

J P Burns
Commanding Officer

NAVY OCCUPATION/TRAINING AND AWARDS HISTORY
NAVPERS 1070/604 (REV. 11-81) S/N 0106-LF-010-[illegible]

1. NAVY ENLISTED CLASSIFICATION RECORD

DATE	PRIMARY CODE	SECONDARY CODE	*OFFICER'S INITIALS

2. DESIGNATOR RECORD

DATE	DESIGNATOR	QUALIFICATION OR REVOCATION	*OFFICERS INITIALS

3. RECORD OF NAVY SERVICE SCHOOLS ATTENDED (CLASS R, A, C, F, P, V AND E)

COURSE TITLE AND SCHOOL LOCATION

EARNED NEC	COURSE LENGTH	DATE ENROLLED
DATE COMPLETED	FINAL MARK	CLASS STANDING ______ *in a class of* ______

MANNER OF COMPLETION
☐ GRADUATED ☐ DROPPED FOR

SIGNATURE*

COURSE TITLE AND SCHOOL LOCATION

EARNED NEC	COURSE LENGTH	DATE ENROLLED
DATE COMPLETED	FINAL MARK	CLASS STANDING ______ *in a class of* ______

MANNER OF COMPLETION
☐ GRADUATED ☐ DROPPED FOR

SIGNATURE*

COURSE TITLE AND SCHOOL LOCATION

EARNED NEC	COURSE LENGTH	DATE ENROLLED
DATE COMPLETED	FINAL MARK	CLASS STANDING ______ *in a class of* ______

MANNER OF COMPLETION
☐ GRADUATED ☐ DROPPED FOR

SIGNATURE*

COURSE TITLE AND SCHOOL LOCATION

EARNED NEC	COURSE LENGTH	DATE ENROLLED
DATE COMPLETED	FINAL MARK	CLASS STANDING ______ *in a class of* ______

MANNER OF COMPLETION
☐ GRADUATED ☐ DROPPED FOR

SIGNATURE*

4. TRAINING COURSES COMPLETED

DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER	DATE COMPLETED	*OFF INIT	DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER	DATE COMPLETED	*OFF INIT

5. EDUCATIONAL EXPERIENCE LEVEL

GED (HS) EQUIVALENT TEST

DATE PASSED	OFF. INITIALS

STATE THAT ISSUED DIPLOMA OR CERTIFICATE

COLLEGE LEVEL GENERAL EXAMS

DATE PASSED	OFF. INITIALS

PRESENT LEVEL OF EDUCATION

12 13 14 15 16 17+

NAME (*Last, First, Middle*)	SOCIAL SECURITY NO.	BRANCH AND CLASS

4 ☐

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NAVPERS 1070/604 (REV. 11-81)
S/N 0106-LF-010-6045

PAGE 2

6. PERSONNEL ADVANCEMENT REQUIREMENT

DESCRIPTION	DATE COMPLETED	*OFF INIT.

7. PERFORMANCE TESTS

DESCRIPTION	DATE COMPLETED	*OFF. INIT.

8. ADVANCEMENT, REDUCTION OR CHANGE IN RATING

RATE ADVANCED, REDUCED OR CHANGED		EFFECTIVE	TIME IN RATE COMPUTED FROM	*OFF. INIT.

9. RECORD OF OFF-DUTY EDUCATION AND VOC/TECH TRAINING

DATE COMPLETED	NUMBER AND TITLE OF COURSE OR TEST	SCHOOL	GRADE	*OFF. INIT.	DATE COMPLETED	NUMBER AND TITLE OF COURSE OR TEST	SCHOOL	GRADE	*OFF. INIT.

10. GOOD CONDUCT AWARDS

AWARD NUMBER	DATE EARNED	*OFF. INIT.

11. DECORATIONS; UNIT; AND MARKSMANSHIP AWARDS

AWARD	ACTIVITY	DATE OF AWARD	*OFF. INIT.

12. CAMPAIGN/SERVICE AND OTHER AWARDS

AWARD	ENGAGEMENT(S)	*OFF. INIT.	AWARD	ENGAGEMENT(S)	*OFF. INIT.

13. OTHER TRAINING COURSES/INSTRUCTIONS COMPLETED

DATE COMPLETED	TYPE OF COURSE AND/OR INSTRUCTION	DURATION	LOCATION	*OFF. INIT.

NAVY OCCUPATION/TRAINING AND AWARDS HISTORY
NAVPERS 1070/604 (REV. 11-81) S/N 0106-LF-010-6040

14. PERSONNEL QUALIFICATION STANDARDS COMPLETED

DATE COMPLETED	PQS TITLE/WATCH STATION TITLE	PQS/WATCH STATION NO.	*OFFICER'S INITIALS

NAME *(Last, First, Middle)*	SOCIAL SECURITY NO.	BRANCH AND CLASS

4 ☐

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ENLISTED QUALIFICATIONS HISTORY

1. EDUCATIONAL EXPERIENCE LEVEL

GED (HS) EQUIVALENT TEST			COLLEGE LEVEL GENERAL EXAMS		PRESENT LEVEL OF EDUCATION
DATE ISSUED	ISSUING STATE	INIT	DATE PASSED	INIT	12 13 14 15 16 17

2. CLASSIFICATION/ASVAB TESTING QUALIFICATIONS

TEST FORM ID	DATE ADMIN.	AFQT	GS	AR	WK	PC	NO	CS	AS	MK	MC	EI	VE

ASVAB ADMINISTERED BY:

SPECIAL TEST SCORES

NAME	FORM	DATE	SCORE

CLASSIFIER'S SIGNATURE:

3. RECORD OF OFF-DUTY EDUCATION/VOC/TECH TRAINING AND NON-REQUIRED CORRESPONDENCE COURSES

NUMBER/TITLE OF COURSE OR TEST	SCHOOL	DATE COMPLETED	GRADE	INIT	NUMBER/TITLE OF COURSE OR TEST	SCHOOL	DATE COMPLETED	GRADE	INIT

4. OTHER TRAINING COURSES/INSTRUCTIONS COMPLETED

DATE COMPLETED	TYPE OF COURSE AND/OR INSTRUCTION	DURATION	LOCATION	INIT

NAME (Last, First, Middle)	SOCIAL SECURITY NUMBER	BRANCH AND CLASS

NAVPERS 1070/604 (Rev. 7/91)
S/N 0106-LF-012-2500

4 ☐

5. NAVY SERVICE SCHOOLS/MILITARY TRAINING COURSES

COURSE TITLE/SCHOOL		NEC	DATE ENROLLED/COMPLETED	COURSE TITLE/SCHOOL		NEC	DATE ENROLLED/COMPLETED
COURSE LENGTH	GRADE	MANNER OF COMPLETION ☐ GRADUATED ☐ DROPPED	INIT	COURSE LENGTH	GRADE	MANNER OF COMPLETION ☐ GRADUATED ☐ DROPPED	INIT
COURSE TITLE/SCHOOL		NEC	DATE ENROLLED/COMPLETED	COURSE TITLE/SCHOOL		NEC	DATE ENROLLED/COMPLETED
COURSE LENGTH	GRADE	MANNER OF COMPLETION ☐ GRADUATED ☐ DROPPED	INIT	COURSE LENGTH	GRADE	MANNER OF COMPLETION ☐ GRADUATED ☐ DROPPED	INIT

6. CORRESPONDENCE COURSES REQUIRED FOR ADVANCEMENT

DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER	DATE COMPLETED	INIT	DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER	DATE COMPLETED	INIT

7. NAVY ENLISTED CLASSIFICATIONS

PRIMARY CODE	SECONDARY CODE	DATE	INIT

8. PERSONNEL ADVANCEMENT REQUIREMENTS

DESCRIPTION	DATE COMPLETED	INIT

9. ENLISTED RATE/RATING

RATE	DATE	TIME IN RATE	INIT

10. DESIGNATOR RECORD

DATE	DESIGNATOR	QUAL/REVOCATION	INIT

NAME (Last, First, Middle)	SOCIAL SECURITY NUMBER	BRANCH AND CLASS

36

11. AWARDS

AWARD NAME	DATE OF AWARD	AUTHORITY	ADV PNTS	INIT

NAME (Last, First, Middle)	SOCIAL SECURITY NUMBER	BRANCH AND CLASS

NAVPERS 1070/604 (Rev. 7/91) PAGE 3

4

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12. PERSONNEL QUALIFICATION STANDARDS (PQS)							
PQS TITLE	PQS STATION #	DATE	INIT	PQS TITLE	PQS STATION #	DATE	INIT

NAME (Last, First, Middle)	SOCIAL SECURITY NUMBER	BRANCH AND CLASS

*U.S. Government Printing Office: 1993 — 705-447

4 ☐

ADMINISTRATIVE REMARKS
NAVPERS 1070/613 (REV. 10-81)
S/N 0106-LF-010-6091

E-32

SHIP OR STATION
Naval Reserve Center Pensacola

3MAY90: Qualified for Recruiter in Charge in accordance with COMNAVRESFORINST 1130.11

Commanding Officer

- -

NAME (Last, First, Middle)	SSN	BRANCH AND CLASS
		USN

13 ☐

FITNESS REPORT & COUNSELING RECORD (E7 - O6)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Grade/Rate	3. Desig	4. SSN

5. ACT ☐ TAR ☐ INACT ☐ AT/ADSW/265 ☐	6. UIC	7. Ship/Station	8. Promotion Status	9. Date Reported

Occasion for Report
10. Periodic ☐ 11. Detachment of Individual ☐ 12. Detachment of Reporting Senior ☐ 13. Special ☐

Period of Report
14. From: 15. To:

16. Not Observed Report ☐

Type of Report
17. Regular ☐ 18. Concurrent ☐ 19. Ops Cdr ☐

20. Physical Readiness

21. Billet Subcategory (if any)

22. Reporting Senior (Last, FI MI)	23. Grade	24. Desig	25. Title	26. UIC	27. SSN

28. Command employment and command achievements.

29. Primary/Collateral/Watchstanding duties. (Enter primary duty abbreviation in box.)

☐

For Mid-term Counseling Use. (When completing FITREP, enter 30 and 31 from counseling record, sign 32.	30. Date Counseled	31. Counselor	32. Signature of Individual Counseled

PERFORMANCE TRAITS: 1.0 - Below standards/not progressing or UNSAT in any one standard; 2.0 - Does not yet meet all 3.0 standards; 3.0 - Meets all 3.0 standards; 4.0 - Exceeds most 3.0 standards; 5.0 - Meets overall criteria and most of the specific standards for 5.0. Standards are not all inclusive.

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Progressing	3.0 Meets Standards	4.0 Above Standards	5.0* Greatly Exceeds Standards
33. PROFESSIONAL EXPERTISE: Professional knowledge, proficiency, and qualifications. NOB ☐	- Lacks basic professional knowledge to perform effectively. - Cannot apply basic skills. - Fails to develop professionally or achieve timely qualifications. ☐	- - - ☐	- Has thorough professional knowledge. - Competently performs both routine and new tasks. - Steadily improves skills, achieves timely qualifications. ☐	- - - ☐	- Recognized expert, sought after to solve difficult problems. - Exceptionally skilled, develops and executes innovative ideas. - Achieves early/highly advanced qualifications. ☐
34. EQUAL OPPORTUNITY: Fairness, respect for human worth. NOB ☐	- Displays personal bias or engages in harassment. - Tolerates bias, unfairness or harassment in subordinates. - Lacks respect for EO objectives. - Interferes with order and discipline by disregarding rights of others. ☐	- - - - ☐	- Always treats others with fairness and respect. - Does not condone bias or harassment in or outside of workplace. - Supports Navy EO objectives. - Contributes to unit cohesiveness and morale. ☐	- - - - ☐	- Admired for fairness and human respect. - Ensures a climate of fairness and respect for human worth. - Pro-active EO leader, achieves concrete EO objectives. - Leader and model contributor to unit cohesiveness and morale. ☐
35. MILITARY BEARING/ CHARACTER: Appearance, conduct, physical fitness, adherence to Navy Core Values. NOB ☐	- Consistently unsat appearance. - Unsatisfactory demeanor/conduct. - Unable to meet one or more physical readiness standards. - Fails to live up to one or more Navy Core Values: HONOR, COURAGE, COMMITMENT. ☐	- - - - ☐	- Excellent personal appearance. - Excellent demeanor or conduct. - Complies with physical readiness program, within all standards. - Always lives up to Navy Core Values: HONOR, COURAGE, COMMITMENT. ☐	- - - - ☐	- Exemplary personal appearance. - Exemplary representative of Navy. - Excellent or outstanding PRT. A leader in physical readiness. - Exemplifies Navy Core Values: HONOR, COURAGE, COMMITMENT. ☐
36. TEAMWORK: Contributions to team building and team results. NOB ☐	- Creates conflict, unwilling to work with others, puts self above team. - Fails to understand team goals or teamwork techniques. - Does not take direction well. ☐	- - - ☐	- Reinforces others' efforts, meets personal commitments to team. - Understands team goals, employs good teamwork techniques. - Accepts and offers team direction. ☐	- - - ☐	- Team builder, inspires cooperation and progress. - Talented mentor, focuses goals and techniques for team. - The best at accepting and offering team direction. ☐
37. MISSION ACCOMPLISHMENT AND INITIATIVE: Taking initiative, planning, prioritizing, achieving mission. NOB ☐	- Lacks initiative - Unable to plan or prioritize. - Does not maintain readiness. - Fails to get the job done. ☐	- - - - ☐	- Takes initiative to meet goals. - Plans/prioritizes effectively. - Maintains high state of readiness. - Always gets the job done. ☐	- - - - ☐	- Develops innovative ways to accomplish mission. - Plans/prioritizes with exceptional skill and foresight. - Maintains superior readiness, even with limited resources. - Gets jobs done earlier and far better than expected. ☐

NAVPERS 1610/2 (7-95)

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FITNESS REPORT & COUNSELING RECORD (E7 - O6) (cont'd)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Grade/Rate	3. Desig	4. SSN

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Progressing	3.0 Meets Standards	4.0 Above Standards	5.0* Greatly Exceeds Standards
38. LEADERSHIP: Organizing, motivating and developing others to accomplish goals. NOB ☐	- Fails to motivate, train or develop subordinates. - Fails to organize, creates problems for subordinates. - Does not set or achieve goals relevant to command mission. - Lacks ability to cope with or tolerate stress. - Inadequate communicator. - Tolerates hazards or unsafe practices. - Does not attend to welfare of subordinates. ☐	- - - - - - - ☐	- Effectively motivates, trains and develops subordinates. - Organizes successfully, solves problems as they occur. - Sets/achieves useful, realistic goals which support command mission. - Performs well in stressful situations. - Clear, timely communicator. - Ensures safety of personnel and equipment. - Routinely considers subordinates' personal and professional welfare. ☐	- - - - - - - ☐	- Inspiring motivator and trainer, consistently builds winners. - Superb organizer, great foresight, gets ahead of problems. - Leadership achievements dramatically further command mission. - Perseveres through the toughest challenges and inspires others. - Exceptional communicator. - Makes subordinates safety-conscious, maintains top safety record. - Constantly improves the personal and professional lives of others. ☐
39. TACTICAL PERFORMANCE: (Warfare qualified officers only) Basic and tactical employment of weapons systems. NOB ☐	- Has difficulty attaining qualification expected for rank or experience. - Has difficulty in ship(s), aircraft or weapons systems employment. Below others in knowledge and employment. - Warfare skills in specialty are below standards compared to others of same rank and experience. ☐	- - - ☐	- Attains qualifications as required and expected. - Capably employs ship(s), aircraft, or weapons systems. Equal to others in warfare knowledge and employment. - Warfare skills in specialty equal to others of same rank and experience. ☐	- - - ☐	- Fully qualified at appropriate level for rank and experience. - Innovatively employs ship(s), aircraft, or weapons systems. Well above others in warfare knowledge and employment. - Warfare skills in specialty exceed others of same rank and experience. ☐

40. I recommend screening this individual for next career milestone(s) as follows: (maximum of two) Recommendations may be for competitive schools or duty assignments such as: LCPO, DEPT CPO, SEA, CMC, CWO, LDO, Dept Head, XO, OIC, CO, Major Command, War College, PG School.

41. COMMENTS ON PERFORMANCE: * All 5.0 and 1.0 marks must be specifically substantiated in comments. No numerical ranking permitted. Comments must be verifiable. Bold, underlined, italic, or other highlighted type is prohibited. Font must be 10 or 12 pitch (10 to 12 point) only. Use upper and lower case.

Promotion Recommendation	NOB	Significant Problems	Progressing	Promotable	Must Promote	Early Promote	44. Reporting Senior Address
42. INDIVIDUAL							
43. SUMMARY	☒						

45. Signature of Reporting Senior

Date:

46. Signature of individual evaluated. "I have seen this report, been apprised of my performance, and understand my right to make a statement."
I intend to submit a statement ☐ I do not intend to submit a statement ☐

Date:

47. Typed name, grade, command, UIC, and signature of Regular Reporting Senior on Concurrent Report

Date:

4138899

P1611-1

03

REPORT ON THE FITNESS OF OFFICERS

1. NAME (LAST, FIRST, MIDDLE)
2. GRADE
3. DESIG
4. SSN

☐ 5. ACDUTRA/TEMAC
6. UIC
7. SHIP/STATION
8. DATE REPORTED

OCCASION FOR REPORT
☐ 9. PERIODIC
☐ 10. DETACHMENT OF REPORTING SENIOR
☐ 11. DETACHMENT OF OFFICER

PERIOD OF REPORT
12. FROM
13. TO

TYPE OF REPORT
☐ 14. REGULAR
☐ 15. CONCURRENT
☐ 16. SPECIAL
☐ 17. OPS CDR

BASIS FOR OBSERVATION
☐ 18. CLOSE
☐ 19. FREQUENT
☐ 20. INFREQUENT

21. EMPLOYMENT OF COMMAND (CONTINUED ON REVERSE SIDE OF RECORD COPY)
22. DAYS OF COMBAT

23. REPORTING SENIOR (LAST NAME, FI, MI)
24. TITLE
25. GRADE
26. DESIG
27. SSN

28. DUTIES ASSIGNED (CONTINUED ON REVERSE SIDE OF RECORD COPY)

SPECIFIC ASPECTS OF PERFORMANCE (TYPE IN OCR CODE LETTER FROM WORK SHEET)
29. GOAL SETTING & ACHIEVEMENT
30. SUBORDINATE MANAGEMENT & DEVELOPMENT
31. WORKING RELATIONS
32. EQUIP & MATERIAL MANAGE
33. NAVY ORGAN SUPPORT
34. RESPONSE IN STRESSFUL SITUATIONS
35. EQUAL OPPORTUNITY
36. SPEAKING ABILITY
37. WRITING ABILITY

WARFARE SPECIALTY SKILLS (FROM OCR WORK SHEET)
38. SEAMANSHIP
39. AIRMANSHIP
40. WATCH STANDING
41. TACTICAL PROFICIENCY
42. LEADERSHIP
43.

44. SUBSPECIALTY CODE

REQUIRED BY BILLET
☐ 45. YES
☐ 46. NO

UTILIZATION
☐ 47. FREQUENT
☐ 48. INFREQUENT
☐ 49. NONE

(WORK SHEET CODE)
50. PERFORMANCE

MISSION CONTRIBUTION	NOT OBS	HIGH				MID			LOW MARG	LOW UNSAT*
51 EVALUATION										
52 SUMMARY										

TREND OF PERFORMANCE
☐ 53. FIRST REPORT
☐ 54. CONSISTENT
☐ 55. IMPROVING
☐ 56. DECLINING*

DESIRABILITY (TYPE IN OCR CODE FROM WORK SHEET)
57. COMMAND
58. OPERATIONAL
59. STAFF
60. JOINT/OSD
61. FOREIGN SHORE

RECOMMENDATION FOR PROMOTION
☐ 62. EARLY
☐ 63. REGULAR
☐ 64. NO*

RANKING FOR EARLY PROMOTION
65. NUMBER RECOMMENDED
66. RANKING

PERSONAL TRAITS (TYPE IN OCR CODE FROM WORK SHEET)
67. JUDGMENT
68. IMAGINATION
69. ANALYTIC ABILITY
70. PERSONAL BEHAVIOR
71. FORCEFULNESS
72. MILITARY BEARING
☐ 73.
☐ 74
☐ 75
☐ 76

WEAKNESSES DISCUSSED?
☐ 77. NONE NOTED
☐ 78. YES
☐ 79. NO*

STATEMENT
80. NOT DESIRED
81. ATTACHED

82. SIGNATURE OF OFFICER EVALUATED: (IAW BUPERS INST. 1611-12-SERIES) "I ACKNOWLEDGE THAT I HAVE SEEN THIS REPORT, HAVE BEEN APPRISED OF MY PERFORMANCE AND RIGHT TO MAKE A STATEMENT."

83. DATE FORWARDED
84. RES PART ☐
85. SIGNATURE OF REPORTING SENIOR

86. DATE FORWARDED
87. SIGNATURE OF REGULAR REPORTING SENIOR ON CONCURRENT AND CONCURRENT/SPECIAL REPORT

NAVPERS 1611/1 (REV. 7-84) S/N 0106-LF-016-1102

☆U.S. GOVERNMENT PRINTING OFFICE: 1989 – 229-815

REPORTING SENIOR'S COPY

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NAVPERS 1611/1—page 2 of 2 pages

21 EMPLOYMENT OF COMMAND (Continued)

---

28 DUTIES ASSIGNED (Continued)

---

88 COMMENTS Particularly comment upon the officer's overall leadership ability, personal traits not listed on the reverse side, and estimated or actual performance in combat. Include comments pertaining to unique skills and distinctions that may be important to career development and future assignment. A mark in boxes with an asterisk (*) indicates adversity and supporting comments are required

1616-1

ENLISTED PERFORMANCE EVALUATION REPORT

1 NAME *(Last, First, Middle or Middle Initial)*
2 RATE/RATING
3 SSN

BRANCH/CLASS 4 ☐ USN 5 ☐ USNR
STATUS 6 ☐ ACTIVE 7 ☐ INACTIVE 8 ☐ TEMAC 9 ☐ ACDUTRA

10 MEMBER'S SHIP OR STATION
11 MEMBER'S UIC
12 DATE REPORTED

OCCASION FOR REPORT 13 ☐ Periodic 14 ☐ Transfer 15 Other
PERIOD OF REPORT 16 From 17 To

TYPE OF REPORT 18 ☐ Regular 19 ☐ Con-Current
20 HEIGHT & WEIGHT/PHYS. QUAL.
21 RESERVE PART
22 EFF DATE OF RATE

23 REPORTING SENIOR'S NAME *(Last and Initials)*
24 RANK
25 TITLE
26 SSN

	EVALUATION SECTION *Requires Comment	NOT OBS	4.0	3.8	3.6	3.4	3.2	3.0	2.8*	2.6*	2.0*	1.0*
PROFESSIONAL FACTORS	27 MILITARY KNOWLEDGE/PERFORMANCE											
	28 RATING KNOWLEDGE/PERFORMANCE											
PERSONAL TRAITS	29 INITIATIVE											
	30 RELIABILITY											
	31 MILITARY BEARING											
	32 PERSONAL BEHAVIOR											
	33 HUMAN RELATIONS INCL EQUAL OPPORTUNITY											
SELF EXPRESSION	34 SPEAKING ABILITY											
	35 WRITING ABILITY											
LEADERSHIP	36 DIRECTING											
	37 COUNSELING											
38 MANAGEMENT *(E-7/8/9 Only)*												
39 OVERALL EVALUATION												
40 SUMMARY *(Required for E-4 & Above)*												

ADVANCEMENT RECOMMENDATION 41 ☐ Recommended 42 ☐ Progress Toward 43 ☐ Not Recom *

45 SIGNATURE OF REPORTING SENIOR

44 SIGNATURE OF MEMBER

I acknowledge that I have seen this evaluation report and understand my rights under Article 1110, U.S. Navy Regulations (1973) to submit a statement.

Statement: Desired/Not Desired (cross out as appropriate)

46 ADDRESS OF REPORTING SENIOR

47 TYPED NAME AND SIGNATURE OF REGULAR REPORTING SENIOR ON CONCURRENT REPORT
48 DATE FORWARDED
49 DATE FWD *(If 47 Used)*

NAVPERS 1616/24 (Rev. 6-83) S/N 0106-LF-016-1721
Report NMPC 1616-1

OCR TYPING FONT NOT REQUIRED FOR COMPLETION OF THIS SIDE

50 MEMBER'S LAST NAME, INITIALS	51 SSN	PERIOD OF REPORT 52 From	53 To

54 DUTIES AND RESPONSIBILITIES

55 SPECIAL ACHIEVEMENTS

56 EVALUATION COMMENTS

EVALUATION REPORT & COUNSELING RECORD (E1 - E6)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Rate	3. Desig	4. SSN

5. ACT ☐ TAR ☐ INACT ☐ AT/ADSW/265 ☐	6. UIC	7. Ship/Station	8. Promotion Status	9. Date Reported

Occasion for Report 10. Periodic ☐ 11. Detachment of Individual ☐ 12. Promotion/Frocking ☐ 13. Special ☐	Period of Report 14. From: 15. To:

16. Not Observed Report ☐	Type of Report 17. Regular ☐ 18. Concurrent ☐ 19. ☐	20. Physical Readiness	21. Billet Subcategory (if any)

22. Reporting Senior (Last, FI MI)	23. Grade	24. Desig	25. Title	26. UIC	27. SSN

28. Command employment and command achievements.

29. Primary/Collateral/Watchstanding duties. (Enter primary duty abbreviation in box.) ☐

For Mid-term Counseling Use. (When completing EVAL, enter 30 and 31 from counseling record, sign 32.)	30. Date Counseled	31. Counselor	32. Signature of Individual Counseled

PERFORMANCE TRAITS: 1.0 - Below standards/not progressing or UNSAT in any one standard; 2.0 - Does not yet meet all 3.0 standards; 3.0 - Meets all 3.0 standards; 4.0 - Exceeds most 3.0 standards; 5.0 - Meets overall criteria and most of the specific standards for 5.0. Standards are not all inclusive.

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Progressing	3.0 Meets Standards	4.0 Above Standards	5.0* Greatly Exceeds Standards
33. PROFESSIONAL KNOWLEDGE: Technical knowledge and practical application. NOB ☐	- Marginal knowledge of rating, specialty or job. - Unable to apply knowledge to solve routine problems. - Fails to meet advancement/PQS requirements. ☐	- - - ☐	- Strong working knowledge of rating, specialty and job. - Reliably applies knowledge to accomplish tasks. - Meets advancement/PQS requirements on time. ☐	- - - ☐	- Recognized expert, sought out by all for technical knowledge. - Uses knowledge to solve complex technical problems. - Meets advancement/PQS requirements early/with distinction. ☐
34. QUALITY OF WORK: Standard of work; value of end product. NOB ☐	- Needs excessive supervision. - Product frequently needs rework. - Wasteful of resources. ☐	- - - ☐	- Needs little supervision. - Produces quality work. Few errors and resulting rework. - Uses resources efficiently. ☐	- - - ☐	- Needs no supervision. - Always produces exceptional work. No rework required. - Maximizes resources. ☐
35. EQUAL OPPORTUNITY: Fairness, respect for human worth. NOB ☐	- Displays personal bias or engages in harassment. - Tolerates bias, unfairness or harassment in subordinates. - Lacks respect for EO objectives. - Interferes with order and discipline by disregarding rights of others. ☐	- - - - ☐	- Always treats others with fairness and respect. - Does not condone bias or harassment in or outside of workplace. - Supports Navy EO objectives. - Contributes to unit cohesiveness and morale. ☐	- - - - ☐	- Admired for fairness and human respect. - Ensures a climate of fairness and respect for human worth. - Pro-active EO leader, achieves concrete EO objectives. - Leader and model contributor to unit cohesiveness and morale. ☐
36. MILITARY BEARING/ CHARACTER: Appearance, conduct, physical fitness, adherence to Navy Core Values. NOB ☐	- Consistently unsat appearance. - Poor self-control; conduct resulting in disciplinary action. - Unable to meet one or more physical readiness standards. - Fails to live up to one or more Navy Core Values: HONOR, COMMITMENT, COURAGE. ☐	- - - - ☐	- Excellent personal appearance. - Excellent conduct, conscientiously complies with regulations. - Complies with physical readiness program, within all standards. - Always lives up to Navy Core Values: HONOR, COMMITMENT, COURAGE. ☐	- - - - ☐	- Exemplary personal appearance. - Model of conduct, on and off duty. - Excellent or outstanding PRT. A leader in physical readiness. - Exemplifies Navy Core Values: HONOR, COMMITMENT, COURAGE. ☐
37. PERSONAL JOB ACCOMPLISHMENT/ INITIATIVE: Responsibility, quantity of work. NOB ☐	- Needs prodding to attain qualification or finish job. - Prioritizes poorly. - Avoids responsibility. ☐	- - - ☐	- Productive and motivated. Completes tasks and qualifications fully and on time. - Plans/prioritizes effectively. - Reliable, dependable, willingly accepts responsibility. ☐	- - - ☐	- Energetic self-starter. Completes tasks or qualifications early, far better than expected. - Plans/prioritizes wisely and with exceptional foresight. - Seeks extra responsibility and takes on the hardest jobs. ☐

NAVPERS 1616/26 (7-95)

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EVALUATION REPORT & COUNSELING RECORD (E1 - E6) (cont'd)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Rate	3. Desig	4. SSN

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Progressing	3.0 Meets Standards	4.0 Above Standards	5.0* Greatly Exceeds Standards
38. **TEAMWORK:** Contributions to team building and team results. NOB ☐	- Creates conflict, unwilling to work with others, puts self above team. - Fails to understand team goals or teamwork techniques. - Does not take direction well. ☐	- - - ☐	- Reinforces others' efforts, meets commitments to team. - Understands goals, employs good teamwork techniques. - Accepts and offers team direction. ☐	- - - ☐	- Team builder, inspires cooperation and progress. - Focuses goals and techniques for teams. - The best at accepting and offering team direction. ☐
39. **LEADERSHIP:** (Optional for E1-E3) Organizing, motivating and developing others to accomplish goals. NOB ☐	- Fails to motivate, train or develop subordinates. - Fails to organize, creates problems for subordinates. - Does not set or achieve goals relevant to command mission. - Lacks ability to cope with or tolerate stress. - Inadequate communicator. - Tolerates hazards or unsafe practices. - Does not attend to welfare of subordinates. ☐	- - - - - - - ☐	- Effectively motivates, trains and develops subordinates. - Organizes successfully, solves problems as they occur. - Sets/achieves useful, realistic goals which support command mission. - Performs and leads effectively in stressful situations. - Clear, timely communicator. - Ensures safety of personnel and equipment. - Routinely considers subordinates' personal and professional welfare. ☐	- - - - - - - ☐	- Inspiring motivator and trainer, consistently builds winners. - Superb organizer, great foresight, gets ahead of problems. - Leadership achievements significantly further command mission. - Perseveres through the toughest challenges and inspires others. - Exceptional communicator. - Makes subordinates safety-conscious, has top safety record. - Constantly improves the personal and professional lives of others. ☐

40. Individual Trait Avg. Total of trait scores divided by number of graded traits. ☐	41. I recommend this individual for (maximum of two): Assignment in Rating, Sea Special Programs, Shore Special Programs, Commissioning Programs, Special Warfare Programs, Rating Instructor Duty, Other. (Be specific.)	42. Signature of Rater (Typed Name & Rate): I have evaluated this member against the above performance standards and have forwarded written explanation of marks 1.0 and 5.0. Date:

43. COMMENTS ON PERFORMANCE: * All 5.0 and 1.0 marks must be specifically substantiated in comments. No numerical ranking permitted. Comments must be verifiable. Bold, underlined, italic, or other highlighted type is prohibited. Font must be 10 or 12 pitch (10 to 12 point) only. Use upper and lower case.

44. QUALIFICATIONS/ACHIEVEMENTS - Education, awards, community involvement, etc., during this period.

Promotion Recommendation	NOB	Significant Problems	Progressing	Promotable	Must Promote	Early Promote	47. Retention: Not Recommended ☐ Recommended ☐
45. INDIVIDUAL							48. Reporting Senior Address
46. SUMMARY	☒						

49. Signature of Senior Rater (Typed Name & Grade/Rate): I have reviewed the evaluation of this member against these performance standards and have provided written explanation to support marks of 1.0 and 5.0. Date:	50. Signature of Reporting Senior Date:
51. Signature of Individual Evaluated. "I have seen this report, been apprised of my performance, and understand my right to submit a statement." I intend to submit a statement. ☐ I do not intend to submit a statement. ☐	52. Typed name, grade, command, UIC, and signature of Regular Reporting Senior on Concurrent Repo

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DEPARTMENT OF THE NAVY
NAVAL RESERVE CENTER
PENSACOLA, FLORIDA 32509

IN REPLY REFER TO

1100
Ser 08/17
3 May 90

From: Commanding Officer, Naval Reserve Center Pensacola
To:

Subj: DESIGNATION AS RECRUITER IN CHARGE (RINC)

Ref: (a) COMNAVRESFORINST 1130.11
(b) COMNAVRESFORINST 1133.1A

1. In accordance with reference (a), you are designated as the Recruiter in Charge (RINC) for the Naval Reserve Center, Pensacola, Florida. You will report directly to the Commanding Officer in all matters concerning recruiting and other recruiters assigned to this command. Additionally, you will be responsible for the following:

a. Thoroughly familiarize yourself with references (a) and (b) and information pertaining to the qualifications for enlistments, reenlistments, and affiliations.

b. Be familiar with all aspects of the recruiting mission.

2. As Recruiter in Charge, it is your primary responsibility to provide the best quality of applicants for an enlistment in the U. S. Navy while accomplishing your assigned yearly goals.

Copy to:
Service Record
File

REQUEST PERTAINING TO MILITARY RECORDS

Please read instructions on the reverse. If more space is needed, use plain paper.

PRIVACY ACT OF 1974 COMPLIANCE INFORMATION. The following information is provided in accordance with 5 U.S.C. 552a(e)(3) and applies to this form. Authority for collection of the information is 44 U.S.C. 2907, 3101, and 3103, and E.O. 9397 of November 22, 1943. Disclosure of the information is voluntary. The principal purpose of the information is to assist the facility servicing the records in locating and verifying the correctness of the requested records or information to answer your inquiry. Routine uses of the information as established and published in accordance with 5 U.S.C.a(e)(4)(D) include the transfer of relevant information to appropriate Federal, State, local, or foreign agencies for use in civil, criminal, or regulatory investigations or prosecution. In addition, this form will be filed with the appropriate military records and may be transferred along with the record to another agency in accordance with the routine uses established by the agency which maintains the record. If the requested information is not provided, it may not be possible to service your inquiry.

SECTION I—INFORMATION NEEDED TO LOCATE RECORDS (Furnish as much as possible)

1. NAME USED DURING SERVICE *(Last, first, and middle)*	2. SOCIAL SECURITY NO.	3. DATE OF BIRTH	4. PLACE OF BIRTH

5. ACTIVE SERVICE, PAST AND PRESENT (For an effective records search, it is important that ALL service be shown below)

BRANCH OF SERVICE *(Also, show last organization, if known)*	DATES OF ACTIVE SERVICE		Check one		SERVICE NUMBER DURING THIS PERIOD
	DATE ENTERED	DATE RELEASED	OFFICER	ENLISTED	

6. RESERVE SERVICE, PAST OR PRESENT *If "none," check here* ▶ ☐

a. BRANCH OF SERVICE	b. DATES OF MEMBERSHIP		c. Check one		d. SERVICE NUMBER DURING THIS PERIOD
	FROM	TO	OFFICER ☐	ENLISTED ☐	

7. NATIONAL GUARD MEMBERSHIP *(Check one):* ☐ a. ARMY ☐ b. AIR FORCE ☐ c. NONE

d. STATE	e. ORGANIZATION	f. DATES OF MEMBERSHIP		g. Check one		h. SERVICE NUMBER DURING THIS PERIOD
		FROM	TO	OFFICER ☐	ENLISTED ☐	

8. IS SERVICE PERSON DECEASED ☐ YES ☐ NO *If "yes," enter date of death.*

9. IS (WAS) INDIVIDUAL A MILITARY RETIREE OR FLEET RESERVIST ☐ YES ☐ NO

SECTION II—REQUEST

1. EXPLAIN WHAT INFORMATION OR DOCUMENTS YOU NEED; OR, CHECK ITEM 2; OR, COMPLETE ITEM 3

2. IF YOU ONLY NEED A STATEMENT OF SERVICE *check here* ☐

3. LOST SEPARATION DOCUMENT REPLACEMENT REQUEST *(Complete a or b and c.)*

☐ a. REPORT OF SEPARATION *(DD Form 214 or equivalent)*	YEAR ISSUED	*This contains information normally needed to determine eligibility for benefits. It may be furnished only to the veteran, the surviving next of kin, or to a representative with veteran's signed release (item 5 of this form).*
☐ b. DISCHARGE CERTIFICATE	YEAR ISSUED	*This shows only the date and character at discharge. It is of little value in determining eligibility for benefits. It may be issued only to veterans discharged honorably or under honorable conditions; or, if deceased, to the surviving spouse.*

c. EXPLAIN HOW SEPARATION DOCUMENT WAS LOST

4. EXPLAIN PURPOSE FOR WHICH INFORMATION OR DOCUMENTS ARE NEEDED

5. RELEASE AUTHORIZATION, IF REQUIRED *(Read instruction 3 on reverse side)*

I hereby authorize release of the requested information/documents to the person indicated at right (item 7).

VETERAN SIGN HERE ▶ ____________________

(If signed by other than veteran show relationship to veteran.)

6. REQUESTER

a. IDENTIFICATION *(check appropriate box)*

☐ Same person identified in Section I ☐ Surviving spouse

☐ Next of kin (relationship) ____________

☐ Other (specify)

b. SIGNATURE *(see instruction 3 on reverse side)* DATE OF REQUEST

7. *Please type or print clearly —* COMPLETE RETURN ADDRESS

Name, number and street, city, State and ZIP code

TELEPHONE NO. *(include area code)* ▶

180-106 NSN 7540-00-142-9360 STANDARD FORM 180 (Rev. 7-86) Prescribed by NARA (36 CFR 1228.162(a))

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INSTRUCTIONS

1. **Information needed to locate records.** Certain identifying information is necessary to determine the location of an individual's record of military service. Please give careful consideration to and answer each item on this form. If you do not have and cannot obtain the information for an item, show "NA," meaning the information is "not available." Include as much of the requested information as you can. This will help us to give you the best possible service.

2. **Charges for service.** A nominal fee is charged for certain types of service. In most instances service fees cannot be determined in advance. If your request involves a service fee you will be notified as soon as that determination is made.

3. **Restrictions on release of information.** Information from records of military personnel is released subject to restrictions imposed by the military departments consistent with the provisions of the Freedom of Information Act of 1967 (as amended in 1974) and the Privacy Act of 1974. A service person has access to almost any information contained in his own record. The next of kin, if the veteran is deceased, and Federal officers for official purposes, are authorized to receive information from a military service or medical record only as specified in the above cited Acts. Other requesters must have the release authorization, in item 5 of the form, signed by the veteran or, if deceased, by the next of kin. Employers and others needing proof of military service are expected to accept the information shown on documents issued by the Armed Forces at the time a service person is separated.

4. **Location of military personnel records.** The various categories of military personnel records are described in the chart below. For each category there is a code number which indicates the address at the bottom of the page to which this request should be sent. For each military service there is a note explaining approximately how long the records are held by the military service before they are transferred to the National Personnel Records Center, St. Louis. Please read these notes carefully and make sure you send your inquiry to the right address. Please note especially that the record is not sent to the National Personnel Records Center as long as the person retains any sort of reserve obligation, whether drilling or non-drilling.

(If the person has two or more periods of service within the same branch, send your request to the office having the record for the last period of service.)

5. **Definitions for abbreviations used below:**

NPRC—National Personnel Records Center
TDRL—Temporary Disability Retirement List
PERS—Personnel Records
MED—Medical Records

SERVICE	NOTE: (See paragraph 4 above.)	CATEGORY OF RECORDS —	WHERE TO WRITE	ADDRESS CODE ▼
AIR FORCE (USAF)	*Except for TDRL and general officers retired with pay, Air Force records are transferred to NPRC from Code 1, 90 days after separation and from Code 2, 150 days after separation.*	Active members (includes National Guard on active duty in the Air Force), TDRL, and general officers retired with pay		1
		Reserve, retired reservist in nonpay status, current National Guard officers not on active duty in Air Force, and National Guard released from active duty in Air Force.		2
		Current National Guard enlisted not on active duty in Air Force.		13
		Discharged, deceased, and retired with pay.		14
COAST GUARD (USCG)	*Coast Guard officer and enlisted records are transferred to NPRC 7 months after separation.*	Active, reserve, and TDRL members.		3
		Discharged, deceased, and retired members *(see next item).*		14
		Officers separated before 1/1/29 and enlisted personnel separated before 1/1/15.		6
MARINE CORPS (USMC)	*Marine Corps records are transferred to NPRC between 6 and 9 months after separation.*	Active, TDRL, and Selected Marine Corps Reserve members.		4
		Individual Ready Reserve and Fleet Marine Corps Reserve members.		5
		Discharged, deceased, and retired members *(see next item).*		14
		Members separated before 1/1/1905.		6
ARMY (USA)	*Army records are transferred to NPRC as follows: Active Army and Individual Ready Reserve Control Groups: About 60 days after separation. U.S. Army Reserve Troop Unit personnel: About 120 to 180 days after separation.*	Reserve, living retired members, retired general officers, and active duty records of current National Guard members who performed service in the U.S. Army before 7/1/72.*		7
		Active officers (including National Guard on active duty in the U.S. Army).		8
		Active enlisted (including National Guard on active duty in the U.S. Army) and enlisted TDRL.		9
		Current National Guard officers not on active duty in the U.S. Army.		12
		Current National Guard enlisted not on active duty in the U.S. Army.		13
		Discharged and deceased members *(see next item).*		14
		Officers separated before 7/1/17 and enlisted separated before 11/1/12.		6
		Officers and warrant officers TDRL.		8
NAVY (USN)	*Navy records are transferred to NPRC 6 months after retirement or complete separation.*	Active members (including reservists on duty)—PERS and MED		10
		Discharged, deceased, retired (with and without pay) less than six months, TDRL, drilling and nondrilling reservists	PERS ONLY	10
			MED ONLY	11
		Discharged, deceased, retired (with and without pay) more than six months *(see next item)*—PERS & MED		14
		Officers separated before 1/1/03 and enlisted separated before 1/1/1886—PERS and MED		6

**Code 12 applies to active duty records of current National Guard officers who performed service in the U.S. Army after 6/30/72.*
Code 13 applies to active duty records of current National Guard enlisted members who performed service in the U.S. Army after 6/30/72.

ADDRESS LIST OF CUSTODIANS (BY CODE NUMBERS SHOWN ABOVE)—Where to write / send this form for each category of records

1	Air Force Manpower and Personnel Center Military Personnel Records Division Randolph AFB, TX 78150-6001
2	Air Reserve Personnel Center Denver, CO 80280-5000
3	Commandant U.S. Coast Guard Washington, DC 20593-0001
4	Commandant of the Marine Corps (Code MMRB-10) Headquarters, U.S. Marine Corps Washington, DC 20380-0001
5	Marine Corps Reserve Support Center 10950 El Monte Overland Park, KS 66211-1408
6	Military Archives Division National Archives and Records Administration Washington, DC 20408
7	Commander U.S. Army Reserve Personnel Center ATTN: DARP-PAS 9700 Page Boulevard St. Louis, MO 63132-5200
8	USA MILPERCEN ATTN: DAPC-MSR 200 Stovall Street Alexandria, VA 22332-0400
9	Commander U.S. Army Enlisted Records and Evaluation Center Ft. Benjamin Harrison, IN 46249-5301
10	Commander Naval Military Personnel Command ATTN: NMPC-036 Washington, DC 20370-5036
11	Naval Reserve Personnel Center New Orleans, LA 70146-5000
12	Army National Guard Personnel Center Columbia Pike Office Building 5600 Columbia Pike Falls Church, VA 22041
13	The Adjutant General *(of the appropriate State, DC, or Puerto Rico)*
14	National Personnel Records Center (Military Personnel Records) 9700 Page Boulevard St. Louis, MO 63132

*U.S. Government Printing Office: 1982 — 342-199/50147

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Occupation Title Index

This index is designed to provide access to the occupation exhibits in this volume. The titles are listed in alphabetical order. When the occupational title is found, note the exhibit ID number to its right. Locate that number in the proper occupation exhibit section.

Occupations are grouped by military service, using the following prefixes: **MOS:** Army; **CGR** and **CGW**: Coast Guard; **MCE:** Marine Corps; and **NER, LDO,** and **NWO:** Navy.

Administration	LDO-641X-001 LDO-641X-002
Aerographer's Mate	NER-AG-001 NER-AG-002
Air Controlman	NER-AC-001
Air Traffic Control	LDO-639X-001 LDO-639X-002
Air Traffic Controller	NER-AC-001 NER-AC-002
Aircraft Maintenanceman, Master Chief	NER-AF-001 NER-AF-002
Aircrew Survival Equipmentman	NER-PR-002 NER-PR-003
Airman	NER-AN-002
Aviation (Deck)	LDO-631X-001 LDO-631X-002
Aviation Antisubmarine Warfare Operator (Acoustic).	NER-AW-001 NER-AW-004
Aviation Antisubmarine Warfare Operator (Helicopter)	NER-AW-003 NER-AW-006
Aviation Antisubmarine Warfare Operator (Non-Acoustic)	NER-AW-002 NER-AW-005
Aviation Antisubmarine Warfare Technician	NER-AX-002
Aviation Boatswain	NWO-731X-001 NWO-731X-002
Aviation Boatswain's Mate, Aircraft Handling	NER-ABH-002 NER-ABH-003
Aviation Boatswain's Mate, Fuels	NER-ABF-002 NER-ABF-003
Aviation Boatswain's Mate, Launching and Recovery Equipment	NER-ABE-002 NER-ABE-003
Aviation Boatswain's Mate, Master Chief	NER-AB-002
Aviation Electrician's Mate	NER-AE-002 NER-AE-003 NER-AE-004
Aviation Electronics	LDO-638X-001 LDO-638X-002
Aviation Electronics Technician	NER-AT-002 NER-AT-003
Aviation Electronics Technician	NWO-738X-001 NWO-738X-002
Aviation Fire Control Technician	NER-AQ-002
Aviation Machinist's Mate	NER-AD-003 NER-AD-004 NER-AD-005
Aviation Machinist's Mate, Senior Chief	NER-AD-002
Aviation Maintenance	LDO-633X-001 LDO-633X-002
Aviation Maintenance Administrationman	NER-AZ-001 NER-AZ-002
Aviation Maintenance Technician	NWO-734X-001 NWO-734X-002
Aviation Operations	LDO-632X-001 LDO-632X-002
Aviation Operations Technician	NWO-732X-001 NWO-732X-002
Aviation Ordnance	LDO-636X-001 LDO-636X-002
Aviation Ordnance Technician	NWO-736X-001 NWO-736X-002
Aviation Ordnanceman	NER-AO-002
Aviation Storekeeper	NER-AK-001 NER-AK-002
Aviation Structural Mechanic, Hydraulics	NER-AMH-001 NER-AMH-002 NER-AMH-003
Aviation Structural Mechanic, Safety Equipment	NER-AME-001 NER-AME-002 NER-AME-003
Aviation Structural Mechanic, Senior Chief	NER-AM-001 NER-AM-002 NER-AM-003
Aviation Structural Mechanic, Structures	NER-AMS-001 NER-AMS-002 NER-AMS-003
Aviation Support Equipment Technician	NER-AS-003
Aviation Warfare Systems Operator (Acoustic)	NER-AW-007
Aviation Warfare Systems Operator (Helicopter)	NER-AW-009
Aviation Warfare Systems Operator (Non-Acoustic)	NER-AW-008
Aviator	LDO-630X-003 LDO-630X-004
Avionics	LDO-638X-001 LDO-638X-002
Avionics Technician, Master Chief	NER-AV-001 NER-AV-002
Bandmaster	LDO-643X-001
Boatswain (Submarine)	NWO-721X-002
Boatswain (Surface)	NWO-711X-001
Boatswain's Mate	NER-BM-002 NER-BM-003
Boiler Technician	NER-BT-002 NER-BT-003
Builder	NER-BU-001 NER-BU-002
Career Recruiter—Chief Recruiter	NEC-2186-004

Career Recruiter—Recruiter NEC-2186-001
Career Recruiter—Recruiter-In-Charge NEC-2186-002
Career Recruiter—Zone Supervisor NEC-2186-003
Certified Navy Drug and Alcoholism Counselor NEC-9519-001
Civil Engineer Corps LDO-653X-002, NWO-753X-001, NWO-753X-002
Civil Engineer Corps (CEC) LDO-653X-001
Classification Interviewer—Classifier NEC-2612-001
Classification Interviewer—Enlisted Processing Division Supervisor NEC-2612-002
Classification Interviewer—Military Entrance Processing Station (MEPS) Liaison Petty Officer NEC-2612-003
Collateral Duty Career Information Coordinator NEC-9588-001
Command Career Information Retention Counselor/Coordinator NEC-9589-001
Communications Technician NWO-719X-002
Communications Technician, Administrative NER-CTA-001
Communications Technician, Collection NER-CTR-001
Communications Technician, Communications NER-CTO-001
Communications Technician, Interpretive NER-CTI-001
Communications Technician, Maintenance NER-CTM-001
Communications Technician, Technical NER-CTT-001
Construction Electrician NER-CE-001, NER-CE-002
Construction Mechanic NER-CM-001, NER-CM-002
Constructionman NER-CN-001, NER-CN-002
Constructionman, Master Chief NER-CU-001, NER-CU-002
Cryptologic Technician NWO-744X-001, NWO-744X-002
Cryptologic Technician, Administrative NER-CTA-001, NER-CTA-002, NER-CTA-003
Cryptologic Technician, Collection NER-CTR-001, NER-CTR-002
Cryptologic Technician, Collections NER-CTR-003
Cryptologic Technician, Communications NER-CTO-001, NER-CTO-002, NER-CTO-003
Cryptologic Technician, Interpretive NER-CTI-001, NER-CTI-002
Cryptologic Technician, Maintenance NER-CTM-001, NER-CTM-002
Cryptologic Technician, Technical NER-CTT-001, NER-CTT-002
Cryptology LDO-644X-001, LDO-644X-002
Curriculum and Instructional Standards Specialist NEC-9506-001
Damage Controlman NER-DC-001
Data Processing LDO-642X-001, LDO-642X-002
Data Processing Technician NER-DP-002, NWO-742X-001, NWO-742X-002
Data Systems Technician NER-DS-001, NER-DS-002
Deck (Submarine) LDO-621X-001
Deck (Surface) LDO-611X-001
Dental Technician NER-DT-002
Dental Technician, General NER-DTG-001
Dental Technician, Prosthodontics NER-DTP-001
Dental Technician, Repair NER-DTR-001
Dental Technician, Senior Chief and Master Chief NER-DT-001
Dentalman NER-DN-001, NER-DN-002
Disbursing Clerk NER-DK-002, NER-DK-003
Diving Officer NWO-720X-001
Electrician's Mate NER-EM-002, NER-EM-005
Electrician's Mate, Master Chief NER-EM-004, NER-EM-006
Electronics (Submarine) LDO-628X-001
Electronics (Surface) LDO-618X-001
Electronics Standards Specialist NEC-1588-001
Electronics Technician NER-ET-003, NER-ET-004
Electronics Technician (Submarine) NWO-728X-001
Electronics Technician (Surface) NWO-718X-001, NWO-718X-002
Electronics Warfare Technician NER-EW-001, NER-EW-002, NER-EW-003
Engineering Aid NER-EA-002, NER-EA-003
Engineering Technician (Submarine) NWO-723X-002
Engineering Technician (Surface) NWO-713X-003, NWO-713X-004
Engineering/Repair (Submarine) LDO-623X-002
Engineering/Repair (Surface) LDO-613X-001
Engineman NER-EN-002
Equal Opportunity Program Specialist NEC-9515-001
Equipment Operator NER-EO-001, NER-EO-002
Equipmentman, Master Chief NER-EQ-001, NER-EQ-002
Explosive Ordnance Disposal LDO-648X-001, LDO-648X-002
Explosive Ordnance Disposal Technician NWO-748X-001, NWO-748X-002
Field Calibration Activity Technician (Electrical/Electronics) NEC-6673-001
Fire Control Technician NER-FT-002, NER-FT-003
Fire Control Technician, Ballistic Missile Fire Control NER-FTB-002
Fire Control Technician, Gun Fire Control NER-FTG-002
Fire Controlman NER-FC-001
Fireman NER-FN-002
Food Service NWO-752X-001, NWO-752X-002
Gas Turbine System Technician, Electrical NER-GSE-001, NER-GSE-002, NER-GSE-003
Gas Turbine System Technician, Mechanical NER-GSM-002, NER-GSM-003

Gas Turbine System Technician, Senior Chief and Master Chief	NER-GS-001 NER-GS-002
Gunner's Mate, Chief, Senior Chief, and Master Chief	NER-GM-002
Gunner's Mate, Guns	NER-GMG-003
Gunner's Mate, Missiles	NER-GMM-003
Hospital Corpsman	NER-HM-001 NER-HM-002
Hospitalman	NER-HN-001 NER-HN-002
Hull Maintenance Technician	NER-HT-002
Hull Technician	NER-HT-003
Illustrator Draftsman	NER-DM-002 NER-DM-003
Instructor	NEC-9502-001
Instrumentman	NER-IM-002 NER-IM-003
Intelligence	LDO-645X-001 LDO-645X-002
Intelligence Specialist	NER-IS-001 NER-IS-002 NER-IS-003
Intelligence Technician	NWO-745X-002 NWO-745X-003
Interior Communications Electrician	NER-IC-001
Journalist	NER-JO-002 NER-JO-003 NER-JO-004
Law	LDO-655X-001 LDO-655X-002
Legalman	NER-LN-002
Lithographer	NER-LI-002 NER-LI-003
Machinery Repairman	NER-MR-002
Machinist's Mate	NER-MM-002 NER-MM-003
Manpower Analyst	NEC-9513-001
Master-At-Arms	NER-MA-001 NER-MA-002
Mess Management Specialist	NER-MS-002
Meteorology/Oceanography	LDO-646X-001 LDO-646X-002
Mineman	NER-MN-001 NER-MN-002
Missile Technician	NER-MT-001 NER-MT-002
Molder	NER-ML-002 NER-ML-005
Molder, Senior Chief and Master Chief	NER-ML-004 NER-ML-006
Musician	NER-MU-001 NER-MU-002
NAVLEAD Instructor	NEC-9518-001
Navy Counselor	NER-NC-002 NER-NC-003
Nuclear Power	LDO-640X-003 LDO-640X-004
Nuclear Power Technician	NWO-740X-001 NWO-740X-002
Ocean Systems Technician, Analyst	NER-OTA-001
Ocean Systems Technician, Maintainer	NER-OTM-001
Ocean Systems Technician, Master Chief	NER-OT-002
Operations	LDO-612X-001
Operations (Surface)	LDO-612X-001
Operations Specialist	NER-OS-002 NER-OS-003
Operations Technician (Surface)	NWO-712X-001
Operations Technician Surface Operations Technician	NWO-712X-001
Opticalman	NER-OM-002 NER-OM-003
Patternmaker	NER-PM-002 NER-PM-003
Personnelman	NER-PN-002
Photographer's Mate	NER-PH-001 NER-PH-002
Photography	LDO-647X-001 LDO-647X-002 NWO-747X-001 NWO-747X-002
Postal Clerk	NER-PC-002 NER-PC-003
Precision Instrumentman, Master Chief	NER-PI-002
Quartermaster	NER-QM-002
Radioman	NER-RM-002 NER-RM-003
Recruiter Canvasser—6-Year Obligor/Nuclear Field Recruiter	NEC-9585-005
Recruiter Canvasser—Chief Recruiter	NEC-9585-004
Recruiter Canvasser—Delayed Entry Program (DEP) Coordinator	NEC-9585-008
Recruiter Canvasser—Leads Supervisor	NEC-9585-007
Recruiter Canvasser—NF/Prior Service (RZ) Recruiter	NEC-9585-006
Recruiter Canvasser—Recruiter	NEC-9585-001
Recruiter Canvasser—Recruiter-In-Charge	NEC-9585-002
Recruiter Canvasser—Zone Supervisor	NEC-9585-003
Religious Program Specialist	NER-RP-002 NER-RP-003
Repair Technician (Submarine)	NWO-724X-003
Repair Technicians (Surface)	NWO-714X-003
Seaman	NER-SN-002
Security	LDO-649X-001 LDO-649X-002
Security Technician	NWO-749X-001 NWO-749X-002
Ship's Clerk	NWO-741X-002 NWO-741X-003
Ship's Serviceman	NER-SH-002
Signalman	NER-SM-002
Sonar Technician, Submarine	NER-STS-002 NER-STS-003 NER-STS-004
Sonar Technician, Surface	NER-STG-002 NER-STG-003
Special Warfare Technician	NWO-715X-002
Steelworker	NER-SW-001 NER-SW-002
Storekeeper	NER-SK-002
Submarine Boatswain	NWO-721X-003
Submarine Communications	LDO-629X-001
Submarine Deck	LDO-621X-002

OCCUPATION TITLE INDEX

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Submarine Electronics Technician NWO-728X-002

Submarine Engineering Technician NWO-723X-003

Submarine Engineering/Repair LDO-623X-003

Submarine Ordnance LDO-626X-002
LDO-626X-003

Submarine Ordnance Technician NWO-726X-001
NWO-726X-002

Supply (SC) LDO-651X-001

Supply Corps LDO-651X-001
NWO-751X-001
NWO-751X-002

Supply Corps (SC) LDO-651X-002

Surface Boatswain NWO-711X-002

Surface Communications LDO-619X-001
LDO-619X-002

Surface Communications Technician.............. NWO-719X-003

Surface Deck LDO-611X-002

Surface Electronics LDO-618X-002

Surface Engineering/Repair...................... LDO-613X-002

Surface Operations............................. LDO-612X-002

Surface Operations Technician NWO-712X-002

Surface Ordnance.............................. LDO-616X-002
LDO-616X-003

Surface Ordnance Technician NWO-716X-002
NWO-716X-003

Surface Repair Technician....................... NWO-714X-004

Torpedoman's Mate (Operator)................... NER-TM-002

Torpedoman's Mate (Technician) NER-TM-001

Tradevman NER-TD-001

Utilitiesman NER-UT-001
NER-UT-002

Utilitiesman, Master Chief....................... NER-UC-001

Weapons Technician NER-WT-001

Yeoman NER-YN-002

Keyword Index

This index is designed to provide access to the courses listed in the course exhibit sections of this volume. Course titles are arranged alphabetically under keywords extracted directly from the titles. For example, the keyword *Dental* is followed by all course titles containing that word.

To use this index:

- Identify a word (or group of words) that appears to be unique or descriptive.
- Locate the keyword(s) in this index.
- If the keyword or the course title cannot be found, identify another descriptive word in the title and try again.
- When the course title is found, note the exhibit ID number to the right of the title. Locate that number in the course exhibit section.

Course exhibits are grouped by military service, using the following prefixes: **AF:** Air Force; **AR:** Army; **CG:** Coast Guard; **DD:** Department of Defense; **MC:** Marine Corps; and **NV:** Navy.

110 Ton
110 Ton R11 Centrifugal Air Conditioning Unit (York) NV-1701-0004
R-11 Centrifugal 110 Ton Air Conditioning Combined Maintenance NV-1701-0004

1200 PSI
Boiler Technician (1200 PSI), Class A1 NV-1710-0084
Boiler Technician, Class A (1200 PSI) NV-1710-0129
Machinist's Mate, Class A (1200 PSI) NV-1710-0128

150 Ton
R-114 Air Conditioning System York 150 Ton NV-1701-0009

15G20
15G20 Simulator Maintenance, Class C1 NV-1715-1186

15G21
15G21 Carrier Air Traffic Control Simulator Maintenance, Class C1 NV-1715-1187
15G21 Simulator Maintenance, Class C1 NV-1715-1187

16"/50
16"/50 Caliber Gun System NV-1715-1293

200 Ton
R-114 York 200 Ton Air Conditioning Technician NV-1701-0012

3"/50
3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35) NV-1715-0655
3"/50 Rapid Fire Twin Mount Power Drive and Gun Maintenance NV-1715-0655
3"/50 Rapid Gun Fire Twin Mount Power Drive and Gun NV-1715-1535

3000 PSI
Submarine 3000 PSI Hydraulics Combined Maintenance NV-1704-0247

400 Hertz
400 Hertz Maintenance NV-1714-0049
400 Hertz Motor Generator Electrical System Maintenance, Class C1 NV-1714-0049

490T-1/1A/9
490T-1/1A/9 Antenna Coupler Intermediate Maintenance NV-1715-1721

5"/38
5"/38 Caliber Gun Operation and Maintenance, Class C NV-2202-0158
5"/38 Caliber Gun System NV-1715-1292

5"/54
5"/54 Mk 45 Mod 0 Gun Mount, Class C1 NV-1715-1543
Gun 5"/54 Mk 45 Mod 0 Operational Maintenance NV-1715-1178
Gun Maintenance 5"/54 Caliber Rapid Fire Mk 42 NV-1715-0179
Gun Mount 5"/54 Mk 42 Mod 9 and 10, Class C1 NV-2202-0104
Gun Mount 5"/54 Mk 45 Maintenance, Class C1 NV-1715-1080
Gun Mount 5"/54 Mk 45 Mod 1 Operation and Maintenance NV-1715-1297

500 kW
500 kW 60 Hertz Motor Generator Set Electrical Maintenance NV-1714-0046
500 kW 60 Hertz Motor Generator Set Mechanical Maintenance NV-1714-0047

54H60-77
54H60-77 Propeller Intermediate Maintenance NV-1704-0248

60 Hertz
500 kW 60 Hertz Motor Generator Set Electrical Maintenance NV-1714-0046
500 kW 60 Hertz Motor Generator Set Mechanical Maintenance NV-1714-0047

60/40 Hertz
FFG-7/DD-963 60/40 Hertz Static Frequency Converter Maintenance NV-1714-0029

60/400 Hertz
DD-963 60/400 Hertz Frequency Converter (Air Cooled) Maintenance NV-1715-1710
DD-963 60/400 Hertz Frequency Converter (Air Cooled) System Maintenance NV-1715-1710
FFG-7/DDG-993 60/400 Hertz Frequency Converter (Water-Cooled) System Maintenance NV-1714-0086

6L16
6L16 Oxygen Generator Electrical Technician NV-1715-0918
Oxygen Generator 6L16 Operator NV-1601-0018
Oxygen Generator Operator 6L16 NV-1601-0018
Oxygen Generator Technician 6L16 NV-1715-0918
Treadwell Oxygen Generator Operation/Maintenance 6L16 NV-1601-0018

6YO
Boiler Technician 6 Year Option (6YO) Advanced Maintenance Phase 3, Class C1 NV-1710-0081
Boiler Technician Six Year Obligator (BT 6YO) Advanced Operator NV-1710-0104
Boiler Technician Six-Year Obligator (BT-6YO) Advanced Maintenance NV-1710-0124
Machinist's Mate Six-Year Obligator (6YO) NV-1710-0105
Machinist's Mate Six-Year Obligator (MM 6YO) Advanced Maintenance NV-1710-0125
Machinist's Mate Six-Year Obligator (MM 6YO) Advanced Operations NV-1710-0126

76mm/62
76mm/62 Caliber Mk 75 Mods 0/1 Gun Operation and Maintenance NV-1715-1179
76mm/62 Caliber Mod 0/1 Gun Operation and Maintenance NV-1715-1179

A-6
A-6 Airframes and Hydraulic Organizational Maintenance NV-1704-0356
A-6 and Hydraulic Organizational Maintenance NV-1704-0343
A-6 Structural Systems Organizational Maintenance NV-1704-0341

A-6/EA-6
A-6/EA-6 Electrical/Wire Bundle Repair NV-1714-0065

A-6/EA-6A
A-6/EA-6A Electronic Systems Integrated Organizational Maintenance NV-1715-1735

A-6A
A-6A Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085

A-6E
A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance NV-1715-0937
A-6E TRAM Weapons System Technician Organizational Maintenance NV-1715-0942
A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085

A-7
A-7 AN/APN-190 Doppler Radar Navigation System Intermediate Maintenance NV-1715-0200
A-7 AN/APQ-116 Radar Set Intermediate Maintenance NV-1715-0408
A-7 AN/ASN-90 Inertial Measurement Set Intermediate Maintenance NV-1715-0388
A-7 AN/ASW-26/30 Automatic Flight Control System Intermediate Maintenance NV-1715-0617
A-7 Electrical and Instrument Systems Organizational Maintenance NV-1704-0079

A-7A/B
A-7A/B AN/APQ-116 Radar Set Organizational Maintenance NV-1704-0251
A-7A/B Attitude Heading and Reference System Intermediate Maintenance NV-1721-0006
A-7A/B Electrical and Instrument Systems Organizational Maintenance NV-1704-0079
A-7A/B Hydraulic and Pneumatic Systems Organizational Maintenance NV-1704-0190
A-7A/B Integrated Avionics Weapons System Technician Organizational Maintenance NV-1715-0450
A-7A/B Power Plant and Related Systems Organizational Maintenance NV-1704-0135
A-7A/B Structures, Hydraulics, and Pneumatic Systems Maintenance NV-1704-0190
A-7A/B TF30-P-6/408 Power Plants and Related Systems Organizational Maintenance NV-1704-0135

A-7B/TA-7C
A-7B/TA-7C Power Plant and Related Systems Organizational Maintenance NV-1704-0135

A-7E
A-7E AN/APQ-126 Radar Set Intermediate Maintenance NV-1715-0260
A-7E AN/ASM-375 Inertial Measurement System Test Set Intermediate Maintenance NV-1715-0146
A-7E Armament System Organizational Maintenance NV-1704-0173
A-7E Communication, Navigation, Identification, and Countermeasures Organizational Maintenance NV-1704-0250
A-7E Electrical and Instrument Systems Organizational Maintenance NV-1704-0080
A-7E Hydraulic and Pneumatic Systems Organizational Maintenance NV-1704-0013
A-7E Hydraulic, Pneumatic and Airframe Systems Organizational Maintenance NV-1704-0013
A-7E Integrated Weapons Systems Technician Organizational Level Maintenance NV-1704-0252
A-7E Power Plant and Related Systems Organizational Maintenance NV-1704-0140
A-7E Weapons System Specialist Organizational Maintenance NV-1704-0254
AN/AVM-11 (V) Head Up Display Test Set Intermediate Maintenance (A-7E) NV-1704-0229

A/M26U
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Access
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Advanced Acoustic Analysis, Class C NV-1715-1505
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Antisubmarine Warfare (ASW) Operations Center Acoustic Systems Maintenance Technician NV-1402-0158
Basic Acoustic Analysis NV-1715-1852
Basic Acoustic Analysis Refresher NV-1715-1847
Carrier Based Tactical Support Center Acoustic System Maintenance NV-1715-1537
CV Antisubmarine Warfare (ASW) M Acoustic Systems Maintenance Technician NV-1715-1537
Intermediate Surface Acoustic Analysis NV-2202-0146
P-3C Sensor Station One and Two (Acoustic Systems Technician) Organizational Maintenance NV-1715-0256
SG-791/ARR-72(V) Acoustic Sensor Signal Generator Intermediate Maintenance NV-1715-1565
Surface Acoustic Analysis Specialist NV-2202-0145
Time Series Acoustic Recall System Maintenance NV-1715-1113

Acoustics
Ocean Systems Advanced Acoustics NV-1304-0010

Acquisition
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Mk 23 Target Acquisition System NV-1715-1738
Outboard Maintenance Acquisition Technician NV-1715-1246
Wideband Acquisition and Analysis Maintenance NV-1402-0197 NV-1402-0250
Wideband Acquisition and Analysis Systems Maintenance NV-1402-0197

Administration
Aviation Maintenance Administration, Class A1 NV-1409-0011
AW/SQQ 89(V)-T Onboard Trainer Operator and Administration NV-1715-1780
Combat Systems Electronics Administration Atlantic Fleet NV-1715-1784
Communications Technician Administration Branch, Class A NV-1715-0400
Cryptologic Technician A (Administration), Class A NV-1715-0400

Engineering Maintenance Principles, Practices, and Administration NV-1710-0108
Food Service Administration NV-1729-0014
Information Systems Administration NV-1402-0252
Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst NV-1402-0231
Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst NV-1402-0230
Navy Tactical Command System Afloat System Administration NV-1402-0206
Shipboard Non-Tactical Automated Data Processing (SNAP 3) System Administration NV-1402-0232
SQQ-89(V) On-Board Trainer Operator and Administration NV-1715-1780
Submarine Yeoman/Personnelman Advanced Administration NV-1406-0021

Administrative
Cryptologic Technician Administrative Advanced NV-1405-0032
Cryptologic Technician Administrative, Class A NV-1715-1876
Dental Administrative Technician, Class C NV-0701-0013

Advanced
Advanced Acoustic Analysis, Class C NV-1715-1505
Launcher Control Group Advanced Circuitry NV-1715-1831

Advisory
Tactical Communications for Naval Embarked Advisory Teams NV-1404-0013

Advocate
Accession Judge Advocate NV-1728-0043

Aegis
Aegis Combat System Maintenance Manager (CG-47-64) NV-1715-1746
Aegis Combat System Maintenance Manager (CG-65-73/DDG) NV-1715-1745
Aegis Combat System Maintenance Supervisor NV-1715-1117
Aegis Computer AN/UYK-43 Operation and Maintenance (CG-65-73/DDG) NV-1715-1752
Aegis Computer AN/UYK-7 Operation and Maintenance (CG-47-64) NV-1402-0121
Aegis Display System Operating and Maintenance NV-1715-1301
Aegis Display System Operating and Maintenance (CG-60-73/DDG) NV-1715-1747
Aegis Display System Operation and Maintenance NV-1715-1301
Aegis FCS/ORTS Operation and Maintenance (CG-47-64) NV-1715-1750
Aegis FCS/ORTS Operation and Maintenance (CG-65-73/DDG) NV-1715-1749
Aegis Fire Control System/ORTS Operation and Maintenance NV-1715-1304
Aegis Fundamentals NV-1402-0120
Aegis Radar System AN/SPY-1A Operation and Maintenance NV-1715-1303
Aegis Weapon System Mk 7 Operation and Maintenance (CG-47-64) NV-1715-1302
Aegis Weapon System Mk 7 Operation and Maintenance (CG-65-73/DDG) NV-1715-1751
Aegis Weapon System Operation and Maintenance (AN/SPY-1A/B) NV-1715-1302
Integrated Voice Communication System (IVCS) AN/STC-2(V) Aegis, Maintenance, Class C1 NV-1715-1697

Aerographer's
Aerographer's Mate, Class A1 NV-1304-0012
Aerographer's Mate, Class A1 (Navy unique portion) NV-1304-0012
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Reserve Aerographer's Mate Advanced Forecaster Module D NV-1304-0020
Reserve Aerographer's Mate Forecaster Module A NV-1304-0017
Reserve Aerographer's Mate Forecaster Module B NV-1304-0018
Reserve Aerographer's Mate Forecaster Module C NV-1304-0019

Aerospace
Aerospace Medical Technician, Class C NV-0709-0003
Aerospace Medicine Technician NV-0709-0003
Aerospace Physiology Technician NV-0709-0004

Afloat
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Afloat Storage and Retrieval Operator NV-1402-0100
Afloat Strike Planning Support Systems Applications NV-1709-0040
Afloat Strike Planning Systems Applications NV-1709-0040
AN/URN-25 Afloat TACAN Maintenance NV-1715-1137 NV-1715-1587
Automated Tactical Reconnaissance Systems (TACRECCE) Support Afloat NV-1709-0040
Landing Helo Auxiliary (LHA) Afloat Intelligence Specialist NV-1606-0070
Landing Helo Auxiliary (LHA) Intelligence Center (IC) Afloat Automatic Data Processing (ADP) Operator NV-1402-0101
Landing Helo Auxiliary (LHA)/CVN Afloat Intelligence Specialist NV-1606-0070
Naval Intelligence Processing System (NIPS) Afloat Storage and Retrieval Operator NV-1402-0100
Naval Tactical Command System Afloat (Force Level) Maintenance NV-1715-1813
Naval Tactical Command System Afloat Maintenance NV-1402-0243
Naval Tactical Command System Afloat Maintenance 10-17 NV-1715-1813
Navy Tactical Command System Afloat Integrated Data Base Analyst NV-1402-0204
Navy Tactical Command System Afloat Intelligence Center Manager NV-1402-0205
Navy Tactical Command System Afloat Operator NV-1402-0242
Navy Tactical Command System Afloat Strike Planning (STRIKE) Application NV-1709-0040
Navy Tactical Command System Afloat System Administration NV-1402-0206
Navy Tactical Command System—Afloat Operational Intelligence Systems Afloat NV-1606-0087
Ship's Store Afloat Resale Operation Management (ROM) System Supervisor NV-1408-0031
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Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat NV-1402-0152
Storekeeper Supply Afloat (Independent Duty), Class C NV-1405-0017

Aftercare
Aftercare Program Management NV-0801-0010

Aid
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Engineering Aid, Class A NV-1601-0031

Aids
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Marine Air Traffic Control Navigational Aids Technician, Class C1 NV-1715-1442

Trident 1 Navigational Aids/Electrostatically Supported Gyro Monitor (ESGM) Equipment NV-1715-1800
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement NV-1715-1370

AIMS
AIMS Mk 12 IFF Maintenance NV-1715-1588
AIMS Mk 12 IFF System Maintenance NV-1715-1588
AIMS Mk 12 IFF System Maintenance (Electronics Technician, Class C1) NV-1715-0812

Air
110 Ton R11 Centrifugal Air Conditioning Unit (York) NV-1701-0004
Air Compressor and Compressed Air System Component Maintenance NV-1601-0029
Air Conditioning and Refrigeration Operation and Maintenance NV-1701-0005
Air Conditioning and Refrigeration, Class C NV-1701-0005
Air Conditioning and Refrigeration, Class C1 NV-1701-0005
Air Intercept Control Supervisor NV-2202-0126
Air Intercept Controller NV-1715-1542
Air Intercept Controller Intermediate NV-1704-0340
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification NV-1715-1542
Air Intercept Controller Supervisor Qualification, Class C1 NV-1704-0339
Air Intercept Controller, Conventional Qualification NV-2202-0131
Air Navigation by Correspondence NV-1606-0071
Air Watch Officer NV-2202-0124
AN/APX-76A/B Air/Air Identify Friend or Foe (IFF) Interrogator Intermediate Maintenance NV-1715-1677
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AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer Intelligence Analyst NV-1402-0104
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System Maintenance NV-1402-0103
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System, Automatic Data Processing (ADP) Communications Operator NV-1402-0102
Antisubmarine Air Control Naval Tactical Data System (NTDS) NV-2202-0120
Aviation Support Equipment Mobile Air Conditioning Intermediate Maintenance NV-1701-0008
Builder, Class A, Air Force NV-1710-0167
Centrifugal Air Conditioning System Operation and Maintenance NV-1701-0013
CV Air Operations Closed Circuit Television (ILARTS) Maintenance NV-1715-1229
CV/CVN (Class) Air Compressor NV-1710-0020
DD-963 60/400 Hertz Frequency Converter (Air Cooled) Maintenance NV-1715-1710
DD-963 60/400 Hertz Frequency Converter (Air Cooled) System Maintenance NV-1715-1710
Douglas Model D-704 and Sargent-Fletcher Model 31-300 Air Refueling Stores Organizational Maintenance NV-1704-0046
I/R High Pressure Air Compressor Combined Maintenance NV-1601-0030
Landing Craft Air Cushion Engineer/Assistant Operator NV-1722-0016
Landing Craft Air Cushion Navigator NV-1722-0013
Landing Craft Air Cushion Operator NV-1722-0014
Landing Craft, Air Cushion Craft Control Systems Maintenance NV-1710-0135
Landing Craft, Air Cushion Propulsion and Lift Systems Maintenance NV-1731-0003
Lithium Bromide Air Conditioning NV-1701-0002
Lithium Bromide Air Conditioning Plant Operator NV-1701-0002
Marine Air-Ground Task Force Advanced Counterintelligence NV-1606-0088
Marine Air-Ground Task Force Counterintelligence NV-1511-0028
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 1 NV-1728-0039
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 2 NV-1728-0040
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 3 NV-1728-0041
Marine Air-Ground Task Force Intelligence (Intermediate) Chief NV-1511-0036
Marine Air-Ground Task Force Intelligence Officer NV-1511-0018
Marine Air-Ground Task Force Intelligence Officer Reserve, Phases 1 and 2 NV-1511-0029
Marine Air-Ground Task Force Intelligence Specialist Entry NV-1511-0019
Marine Air-Ground Task Force Intelligence Specialist Intermediate NV-1511-0020
Marine Air-Ground Task Force Intelligence Specialist Reserve (Phases 1 and 2) NV-1511-0030
P-3C Air Conditioning, Pressurization, and Utility Systems Organizational Maintenance NV-1701-0015
R-11 Centrifugal 110 Ton Air Conditioning Combined Maintenance NV-1701-0004
R-114 Air Conditioning System York 150 Ton NV-1701-0009
R-114 York 200 Ton Air Conditioning Technician NV-1701-0012
Refrigeration and Air Conditioning Systems Technicians NV-1701-0019
SH-60F/HH-60H Air Frames and Hydraulic Systems Consolidated Maintenance NV-1704-0344

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Air Conditioning and Refrigeration NV-1730-0011

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15G21 Carrier Air Traffic Control Simulator Maintenance, Class C1 NV-1715-1187
Advanced Radar Air Traffic Control, Class C1 NV-1704-0421
Air Traffic Control NV-1704-0004
Air Traffic Control Maintenance Preparatory NV-1704-0413
Air Traffic Control, Class A NV-1704-0004
Amphibious Air Traffic Control Center Operations, Class C1 NV-1704-0414
AN/TPX-42A(V)10 Radar Air Traffic Control Facility (RATCF) Direct Altitude Identity Readout (DAIR) Maintenance, Class G1 NV-1715-1435
AN/TPX-42A(V)8 Carrier Air Traffic Control Center (CATCC) Direct Altitude Identity Readout (DAIR) Maintenance, Class C1 NV-1715-1434
Carrier Air Traffic Control Center Operations NV-1704-0415
Carrier Air Traffic Control Center Operations, Class C1 NV-1704-0245
Marine Air Traffic Control Advanced Technician, Class C1 NV-1704-0330
Marine Air Traffic Control and Landing System Advanced Operator NV-1704-0422
Marine Air Traffic Control and Landing System Advanced Operator, Class M3 NV-1704-0422
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance NV-1715-1762
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance, Class M3 NV-1715-1762
Marine Air Traffic Control and Landing Systems Maintenance Management, Class M3 NV-1405-0034
Marine Air Traffic Control and Landing Systems Systems Analysis, Class M3 NV-1715-1821
Marine Air Traffic Control Basic Technician, Class A1 NV-1715-1818

Marine Air Traffic Control Communications Technician NV-1715-1773
Marine Air Traffic Control Communications Technician, Class C1 NV-1715-1441
Marine Air Traffic Control Navigational Aids Technician NV-1715-1774
Marine Air Traffic Control Navigational Aids Technician, Class C1 NV-1715-1442
Marine Air Traffic Control Radar Technician NV-1715-1772
Marine Air Traffic Control Radar Technician, Class C1 NV-1715-1443
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Marine Air Traffic Control Technician Common Core, Class M3 NV-1714-0075
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AN/SRQ-4 Light Airborne Multipurpose System (LAMPS) Mk 3 Maintenance NV-1715-1328
E-2C Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1521
E-2C Basic Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1517
E-6A Airborne Communications Officer NV-1715-1822
Introduction to the Airborne Loran AN/ARN-81 Maintenance NV-1715-0247
SH-2F Light Airborne Multipurpose Systems (LAMPS) Avionics Equipment Organizational Maintenance NV-1715-1515
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A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance NV-1715-0937
Aircraft Carrier Inertial Navigation System Operation and Maintenance NV-1402-0225
Aircraft Firefighting and Rescue, Class A1 NV-1728-0006
Aircraft Hydraulic and Pneumatic Component Test Stand (HCT-10) and Limited Aircraft Component Intermediate Maintenance NV-1704-0361
Aircraft Inertial Alignment System NV-1715-1714
Aircraft Launch and Recovery Equipment Arresting Gear NV-1704-0423
Aircraft Launch and Recovery Equipment C13 Mod 1/2 Catapult NV-1704-0307
Aircraft Launch and Recovery Equipment C13 Mod O Catapult, Class C1 NV-1704-0305
Aircraft Launch and Recovery Equipment C7/11 Catapult, Class C1 NV-1704-0424
Aircraft Launch and Recovery Equipment Maintenance Officer, Class 2 NV-1704-0308
Aircraft Launch and Recovery Equipment Maintenance Officers NV-1704-0308
Aircraft Launch and Recovery Equipment Maintenance Technician, Class C1 NV-1704-0425
Aircraft Launch and Recovery Equipment Officer NV-1704-0300
Aircraft Launch and Recovery Equipment Officer, Class C2 NV-1704-0300
Aircraft Launch and Recovery Equipment, Class C1, C13 Mod O Track NV-1704-0305
Aircraft Nondestructive Inspection Technician NV-1704-0412
Aircraft Sealed Instrument Repair Intermediate Maintenance NV-1704-0352
Amphibious Assault Ship Aircraft Inertial Alignment System NV-1715-1714
AN/USM-470(V)1 Aircraft Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance NV-1715-1695
AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance NV-1704-0399
AV-8B Aircraft Communication/Navigation/Weapons System Specialist Organizational Maintenance NV-1704-0407
AV-8B Aircraft Electrical Systems Technician Integrated Organizational Maintenance NV-1704-0404
AV-8B Aircraft Hydraulic/Pneumatic Mechanic Integrated Organizational Maintenance NV-1704-0402
AV-8B Aircraft Mechanic Integrated Organizational NV-1704-0398
AV-8B Aircraft Ordnance Technician Integrated Organizational Maintenance NV-1704-0403
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AV-8B Aircraft Structures Mechanic Integrated Organizational Maintenance NV-1704-0400
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Aviation Boatswain's Mate Aircraft Handling, Class A1 NV-1704-0417 NV-1728-0020
Aviation Support Equipment A/S32A-33 Aircraft Towing Tractor Intermediate Maintenance NV-1703-0015
E-2/C-2 Aircraft Familiarization (Flight Crew) NV-1704-0359
E-2/C-2 Aircraft Rigging Organizational Maintenance NV-1704-0362
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Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance NV-1715-1061
Ship's Navigation and Aircraft Inertial Alignment Systems Maintenance NV-1715-1061
Tactical Aircraft Mission Planning System (TAMPS) System Administrator NV-1402-0207

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Aircrew Survival Equipmentman Common Core, Class A1 NV-1704-0434
Aircrew Survival Equipmentman Intermediate Level Strand, Class A1 NV-1704-0435
Aircrew Survival Equipmentman Intermediate Maintenance, Class F1 NV-1702-0003
Aircrew Survival Equipmentman, Class A1 NV-1704-0304
Aircrew Survival Equipmentman, Class C1 NV-1704-0303

Aircrewman

Aircrewman Candidate Instructor NV-1406-0027
Aircrewman Candidate, Class A NV-0803-0012

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Marine Expeditionary Airfield Equipment NV-1710-0019
Marine Expeditionary Airfield Equipment, Class M1 NV-1710-0019

Airframe

A-7E Hydraulic, Pneumatic and Airframe Systems Organizational Maintenance NV-1704-0013
E-2/C-2 Airframe and Hydraulics Systems Integrated Organizational Maintenance NV-1704-0369
E-6A Airframe and Hydraulics Systems Organizational Maintenance NV-1704-0451
EC-130 Airframe and Hydraulic Systems Maintenance NV-1704-0278

Airframes

A-6 Airframes and Hydraulic Organizational Maintenance NV-1704-0356

E-6A Airframes and Hydraulic Systems (Initial) Organizational Maintenance NV-1704-0450
SH-2F Airframes, Hydraulics, and Flight Control Organizational Maintenance NV-1704-0290
SH-3 Airframes and Hydraulic Systems Organizational Maintenance NV-1704-0047
SH-60B Airframes and Related Systems Organizational Maintenance NV-1704-0292

Airman
Airman Apprentice NV-2202-0173

Airwing
Aviation Ordnanceman Airwing Strand, Class A1 NV-1714-0078

Alarm
Common Alarm, Temperature Monitoring and Salinity Systems Equipment Maintenance NV-1715-1306
Propulsion Alarm and Indicating Systems Maintenance, Class C-1 NV-1710-0137
Strategic Weapons System Support Indication Control Alarm System NV-1715-1832

Alcohol
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Navy Drug and Alcohol Counselor NV-0801-0011

Alignment
Aircraft Inertial Alignment System NV-1715-1714
Amphibious Assault Ship Aircraft Inertial Alignment System NV-1715-1714
Dynamics Alignment Test Set (DATS) Intermediate Maintenance NV-1715-1199
Dynamics Alignment Test Set (DATS) Operator NV-1715-1200
Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance NV-1715-1061
Ship's Navigation and Aircraft Inertial Alignment Systems Maintenance NV-1715-1061

Allison
Ship's Service Gas Turbine Generator Module (Allison 501) Maintenance, Class C1 NV-1703-0009

Altimeter
AN/APN-141(V) Radar Altimeter Intermediate Maintenance NV-1715-1031
AN/APN-171(V) Radar Altimeter (Low Level) and AN/APQ-107 Radar Altimeter Warning Set Intermediate Maintenance NV-1715-0493
AN/APN-171(V) Radar Altimeter (Low Level) Intermediate Maintenance NV-1715-0493
AN/APN-171B(V) Radar Altimeter High and Low Level Intermediate Maintenance NV-1715-1720

Altitude
AN/TPX-42A Basic Direct Altitude Identity Readout (DAIR) Maintenance, Class C1 NV-1715-1432
AN/TPX-42A(V)10 Radar Air Traffic Control Facility (RATCF) Direct Altitude Identity Readout (DAIR) Maintenance, Class G1 NV-1715-1435
AN/TPX-42A(V)5 Direct Altitude Identity Readout (DAIR) Maintenance, Class C1 NV-1715-1433
AN/TPX-42A(V)8 Carrier Air Traffic Control Center (CATCC) Direct Altitude Identity Readout (DAIR) Maintenance, Class C1 NV-1715-1434

AM-2310-ASQ
AM-2310-ASQ AM-2349-ASQ-19 Amplifier (Power Supply) Receiver Intermediate Maintenance NV-1715-1060

AM-2349-ASQ-19
AM-2310-ASQ AM-2349-ASQ-19 Amplifier (Power Supply) Receiver Intermediate Maintenance NV-1715-1060

Amphibious
Amphibious Air Traffic Control Center Operations, Class C1 NV-1704-0414
Amphibious Assault Ship Aircraft Inertial Alignment System NV-1715-1714
Amphibious Reconnaissance Corpsman NV-0803-0006

Amplifier
AM-2310-ASQ AM-2349-ASQ-19 Amplifier (Power Supply) Receiver Intermediate Maintenance NV-1715-1060
AN/AAS-33A Electronic Control Amplifier Intermediate Maintenance NV-1715-1620

AN/AAD-5A
AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance NV-1715-1632

AN/AAM-60(V)2
AN/AAM-60(V)2 Electro-Optical Systems Test Set Intermediate Maintenance NV-1715-1663

AN/AAM-60(V)6
AN/AAM-60(V)6 Electro-Optical Test Set Intermediate NV-1715-1190

AN/AAM-76
AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance NV-1715-1632

AN/AAS-33A
AN/AAS-33A Detecting and Ranging Set Receiver Group/Reciprocating Compressor/Infrared Indicator Intermediate Maintenance Course NV-1715-1411
AN/AAS-33A Electronic Control Amplifier Intermediate Maintenance NV-1715-1620
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance NV-1715-1419

AN/AAS-33A WRAS
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance NV-1715-1419

AN/AAS-36
AN/AAS-36 Infrared Detection System Intermediate Maintenance NV-1715-1580

AN/ACQ-2
AN/ACQ-2/2A Data Communications Systems and Associated Test Set Equipment Intermediate Maintenance NV-1715-0254
E-2A AN/ACQ-2 and AN/ACQ-2A Data Terminal Sets Intermediate Maintenance NV-1715-0254

AN/AJM-32(V)
AN/AJM-32(V) Intermediate Maintenance NV-1715-0069
AN/AJM-32(V) Special Support Equipment Intermediate Maintenance NV-1715-0069

AN/AKT-22(V)
AN/AKT-22(V) Telemetric Data Transmitting Set Intermediate Maintenance NV-1715-1573

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AN/ALD-2B Direction Finder System Intermediate Maintenance NV-1715-1030

AN/ALE-39
AN/ALE-39 Countermeasures Dispensing System Intermediate Maintenance NV-1715-1730

AN/ALM-107
AN/ALQ-99 Jamming Transmitters and AN/ALM-107 Countermeasures Test Station Intermediate Maintenance NV-1715-0053

AN/ALM-107B
AN/ALQ-99 Jamming Transmitters and AN/ALM-107B Countermeasures Test Station Intermediate Maintenance NV-1715-0053

AN/ALM-108
AN/ALM-108 Surveillance Receiver Test Station AN/ALQ-99 Surveillance Receivers Intermediate Maintenance NV-1715-0054

AN/ALM-109C
AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance NV-1715-0052

AN/ALM-117
AN/ALM-117 Digital Test Station Operator NV-1715-0943

AN/ALM-138
AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance NV-1715-0956

AN/ALM-143
AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance NV-1715-0956

AN/ALM-155
AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance NV-1715-0956

AN/ALM-163
AN/ALM-163 Digital Module Test Console Intermediate Maintenance NV-1715-0936

AN/ALQ-144(V)1
AN/ALQ-144(V)1 Countermeasures Set Intermediate Maintenance NV-1715-1732

AN/ALQ-157(V)
AN/ALQ-157(V) Infrared Countermeasures Set Intermediate Maintenance NV-1715-1729

AN/ALQ-99
AN/ALM-108 Surveillance Receiver Test Station AN/ALQ-99 Surveillance Receivers Intermediate Maintenance NV-1715-0054
AN/ALQ-99 Jamming Transmitters and AN/ALM-107 Countermeasures Test Station Intermediate Maintenance NV-1715-0053
AN/ALQ-99 Jamming Transmitters and AN/ALM-107B Countermeasures Test Station Intermediate Maintenance NV-1715-0053
AN/ALQ-99 Jamming Transmitters Intermediate Maintenance NV-1715-1615
AN/ALQ-99 Surveillance Receivers Intermediate Maintenance NV-1715-1618
AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance NV-1715-0052

AN/ALR-45
AN/ALR-45 Countermeasures Receiving Set Intermediate Maintenance NV-1715-0935

AN/ALR-50
AN/ALR-50 Support Equipment Intermediate Maintenance NV-1715-1422

AN/ALR-73
E-2C Passive Detection System (PDS) AN/ALR-73 Organizational Maintenance NV-1715-1519

AN/APA-125A
P-3 AN/APA-125A Indicator Group Intermediate Maintenance NV-1715-0172
P-3 AN/APA-125A Indicator Maintenance, No. 48 NV-1715-0172

AN/APM-341(V)
AN/APM-341(V) Doppler Test Set Intermediate Maintenance NV-1715-0360

AN/APM-375
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance NV-1715-1419

AN/APM-446
AN/APM-446 Radar Set Test Station Operator/Maintainer Intermediate Maintenance NV-1715-1701

AN/APN-141(V)
AN/APN-141(V) Radar Altimeter Intermediate Maintenance NV-1715-1031

AN/APN-154(V)
AN/APN-154(V) Radar Beacon Intermediate Maintenance NV-1715-0584

AN/APN-171(V)
AN/APN-171(V) Radar Altimeter (Low Level) and AN/APQ-107 Radar Altimeter Warning Set Intermediate Maintenance NV-1715-0493
AN/APN-171(V) Radar Altimeter (Low Level) Intermediate Maintenance NV-1715-0493

AN/APN-171B(V)
AN/APN-171B(V) Radar Altimeter High and Low Level Intermediate Maintenance NV-1715-1720

AN/APN-182A(V)
AN/APN-182A(V) Radar Navigation Set Intermediate Maintenance NV-1715-1582

AN/APN-187
AN/APN-187 Doppler Radar (DIVARS) Intermediate Maintenance NV-1715-1575

AN/APN-190
A-7 AN/APN-190 Doppler Radar Navigation System Intermediate Maintenance NV-1715-0200
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AN/APN-190(V)
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AN/APN-70
P-3 AN/APN-70 Loran System Intermediate Maintenance NV-1715-0112

AN/APN-70B
AN/APN-70B Loran System Intermediate Maintenance NV-1715-0112

AN/APQ-107
AN/APN-171(V) Radar Altimeter (Low Level) and AN/APQ-107 Radar Altimeter Warning Set Intermediate Maintenance NV-1715-0493

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A-7 AN/APQ-116 Radar Set Intermediate Maintenance NV-1715-0408
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A-7E AN/APQ-126 Radar Set Intermediate Maintenance NV-1715-0260
AN/APQ-126 (V) Radar Set Intermediate Maintenance NV-1715-0260
AN/APQ-126 Radar Set Special Support Equipment Intermediate Maintenance NV-1715-0513
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Integrated Announcing System AN/WIC-2B(V) Advanced Maintenance NV-1715-1310

Anomaly
AN/ASQ-10 Magnetic Anomaly Detector Intermediate Maintenance NV-1715-0178
AN/ASQ-10A Magnetic Anomaly Detecting Systems Intermediate Maintenance NV-1715-0178
AN/ASQ-81(V) Magnetic Anomaly Detection Set Intermediate Maintenance NV-1715-0559 NV-1715-1581
P-3 AN/ASQ-10A Magnetic Anomaly Detecting Systems Maintenance, No. 42 NV-1715-0178

Antenna
490T-1/1A/9 Antenna Coupler Intermediate Maintenance NV-1715-1721
AN/URT-23 Radio Transmitter Set With AN/URA-38 Antenna Coupler Maintenance (Electronics Technician, Class C1) NV-1715-0056
AN/URT-23(V) Radio Transmitting Set and AN/URA-38 Antenna Coupler Maintenance, Class C NV-1715-0056
AN/WSC-3 Communications Set, OE-82B/WSC-1 Antenna Group and AN/SRA-33 Antenna Coupler Group NV-1715-0876
AN/WSC-3 Satellite Communications Set and OE-82B/WSC-1(V) Antenna Group NV-1715-0876
Combined Integrated Submarine Communications Antenna Subsystem Maintenance NV-1715-1451
CU-2070/ARC Automatic Antenna Coupler Intermediate Maintenance NV-1715-1020
Electronics Technician, AN/URC-9, AN/SRC-20, AN/SRC-21 Radio Sets with AN/SRA-33 Antenna Coupler Maintenance NV-1715-0088
OF-17/ARC-105 Antenna Coupler Group and AN/ARM-158 Radio Test Set Intermediate Maintenance NV-1715-1621
Trident Exterior Communications Subsystem Antenna/Antenna Interface Subsystem Basic Maintenance NV-1715-1810
Trident Exterior Communications System (ECS) Antennas/Antenna Interface System NV-1715-1358
Variable Configuration Antenna Test System (VCATS) NV-1715-1646

Antennas
Trident Exterior Communications System (ECS) Antennas/Antenna Interface System NV-1715-1358

Antisubmarine
AN/SQQ-89(V)1 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1508
AN/SQQ-89(V)1/3 Antisubmarine Warfare Combat System Operator, Class C NV-1715-1508
AN/SQQ-89(V)2 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1507
Antisubmarine Air Control Naval Tactical Data System (NTDS) NV-2202-0120
Antisubmarine Communications Maintenance NV-1715-1533
Antisubmarine Warfare (ASW) Centers Command and Control System Operator NV-2202-0122
Antisubmarine Warfare (ASW) Evaluator Common Core NV-1715-1509
Antisubmarine Warfare (ASW) Module 4.2 System Operator NV-1402-0165
Antisubmarine Warfare (ASW) Module Acoustic Systems NV-1715-1174
Antisubmarine Warfare (ASW) Module Data Processing Technician NV-1402-0090
Antisubmarine Warfare (ASW) Module Data Systems Technician NV-1402-0091
Antisubmarine Warfare (ASW) Module Operator NV-1715-1234
Antisubmarine Warfare (ASW) Module Watch Officer NV-2202-0128
Antisubmarine Warfare (ASW) Officer NV-1715-1510
Antisubmarine Warfare (ASW) Operations Center (ASWOC) Acoustic System NV-1402-0092
Antisubmarine Warfare (ASW) Operations Center (ASWOC) System Operator, Class C NV-1715-1233
Antisubmarine Warfare (ASW) Operations Center Acoustic Systems Maintenance Technician NV-1402-0158
Antisubmarine Warfare (ASW) Operations Center Data Processing Technician, Class C NV-1715-1238
Antisubmarine Warfare (ASW) Operations Center Data Systems Technician NV-1402-0157
Antisubmarine Warfare (ASW) Operator, Class A1 NV-1715-1436
Antisubmarine Warfare (ASW) Scene of Action NV-2202-0161
Antisubmarine Warfare (ASW) Support Communications Maintenance Technician NV-1715-1175
Antisubmarine Warfare (ASW) Support Communications Operator NV-1715-1176
Antisubmarine Warfare Operations Center (ASWOC) Operations Control Operator NV-2202-0122
Antisubmarine Warfare Operations Center (ASWOC) Radioman NV-1715-1176
Antisubmarine Warfare Operations Center (ASWOC) Watch Officer NV-2202-0116
Antisubmarine Warfare/Tactical Air Controller NV-1715-1849
Aviation Antisubmarine Warfare (ASW) Operator, Class A1 NV-1715-1436
Carrier Antisubmarine Warfare (ASW) Module 4.2 Automated Data Processing Operator NV-1402-0166
CV Antisubmarine Warfare (ASW) M Acoustic Systems Maintenance Technician NV-1715-1537
Underwater Fire Control System Mk 116/7 Antisubmarine Control System Maintenance/Operator NV-1715-1848

Apheresis
Hemodialysis/Apheresis Technician, Class C NV-0702-0007

Approach
Terminal Radar Approach Control, Class C1 NV-1704-0244

Arc
Shielded Metal Arc Welding NV-1710-0115

Armament
A-7E Armament System Organizational Maintenance NV-1704-0173
Aviation Armament Equipment Repair Intermediate Maintenance NV-1704-0408
C-8610/AWE Armament Control Panel Intermediate Maintenance NV-1715-1413
F-14D Armament Systems Integrated Organizational Maintenance NV-1704-0372
P-3 Armament/Ordnance Intermediate Maintenance NV-1715-1568
P-3C Armament/Ordnance System Organizational Maintenance NV-1715-1569
S-3A Armament Control and Delivery System Organizational Maintenance NV-2202-0111
SH-60F/HH-60H Armament and Related Systems Consolidated Maintenance NV-1714-0060
Strike Armament Intermediate Maintenance Repair NV-1715-0571

Armored
Armored Box Launcher Maintenance and All Up Round Handling NV-1715-1541
Armored Box Launcher Tomahawk Weapons System Maintenance NV-1402-0161

- Armored Box Launching Tomahawk Weapon System Maintenance Differences and All Up Round Handling NV-1402-0167
- Tomahawk Weapons System DD-963 Class Armored Box Launcher Configuration Operation and Maintenance NV-1402-0160

Arms
- Master at Arms, Class C NV-1728-0034
- Navy Master at Arms NV-1728-0031
- Navy Master at Arms, Class A NV-1728-0033

Array
- AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance NV-1715-1320
- AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance NV-1715-1316
- Surveillance Towed Array Sensor System (SURTASS) Shore NV-1715-1499

ASA-27
- ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance NV-1715-0111
- Computer Detector (CP-413/ASA-27) Intermediate Maintenance NV-1715-0111

Ashore
- Command and Control System Ashore Maintenance Technician NV-1402-0246
- Command and Control System Ashore Manager NV-1402-0245
- Command Control Systems Ashore Display Operator NV-1402-0237
- Command Control Systems Ashore System Manager NV-1402-0239
- Naval Command Control System Ashore Maintenance Technician NV-1715-1815

ASM-144
- ASM-144 On Board Memory Tester Digital Volt Ohmmeter Intermediate Maintenance NV-1715-1210

ASM-76
- ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance NV-1715-0111
- OA-3732/ASM-76 Computer Indicator Intermediate Maintenance NV-1715-0318

ASQ
- RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance NV-1715-0797

ASROC
- ASROC Launching Group Mk 16 NV-1715-0770
- ASROC Launching Group Mk 16 Maintenance, Class C1 NV-1715-0770
- ASROC Missile Intermediate Maintenance NV-1715-1101
- ASROC Weapons Handling System Maintenance NV-1704-0259

Assault
- Amphibious Assault Ship Aircraft Inertial Alignment System NV-1715-1714
- Assault Boat Coxswain NV-1722-0015

Assembler
- Computer Programming AN/UYK-20 Assembler Language Basic NV-1402-0096
- Computer Programming AN/UYK-7 Assembler Language—Basic NV-1402-0095

Assembly
- AV-8B Aircraft Wire/Connector and Fiber Optics Repair/Assembly Organizational Maintenance NV-1715-1728

ASW
- AN/SQQ-89(V)1 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1508
- AN/SQQ-89(V)2 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1507
- Antisubmarine Warfare (ASW) Centers Command and Control System Operator NV-2202-0122
- Antisubmarine Warfare (ASW) Evaluator Common Core NV-1715-1509
- Antisubmarine Warfare (ASW) Module 4.2 System Operator NV-1402-0165
- Antisubmarine Warfare (ASW) Module Acoustic Systems NV-1715-1174
- Antisubmarine Warfare (ASW) Module Data Processing Technician NV-1402-0090
- Antisubmarine Warfare (ASW) Module Data Systems Technician NV-1402-0091
- Antisubmarine Warfare (ASW) Module Operator NV-1715-1234
- Antisubmarine Warfare (ASW) Module Watch Officer NV-2202-0128
- Antisubmarine Warfare (ASW) Officer NV-1715-1510
- Antisubmarine Warfare (ASW) Operations Center (ASWOC) Acoustic System NV-1402-0092
- Antisubmarine Warfare (ASW) Operations Center (ASWOC) System Operator, Class C NV-1715-1233
- Antisubmarine Warfare (ASW) Operations Center Acoustic Systems Maintenance Technician NV-1402-0158
- Antisubmarine Warfare (ASW) Operations Center Data Processing Technician, Class C NV-1715-1238
- Antisubmarine Warfare (ASW) Operations Center Data Systems Technician NV-1402-0157
- Antisubmarine Warfare (ASW) Operator, Class A1 NV-1715-1436
- Antisubmarine Warfare (ASW) Scene of Action NV-2202-0161
- Antisubmarine Warfare (ASW) Support Communications Maintenance Technician NV-1715-1175
- Antisubmarine Warfare (ASW) Support Communications Operator NV-1715-1176
- Aviation Antisubmarine Warfare (ASW) Operator, Class A1 NV-1715-1436
- Carrier Antisubmarine Warfare (ASW) Module 4.2 Automated Data Processing Operator NV-1402-0166
- CV Antisubmarine Warfare (ASW) M Acoustic Systems Maintenance Technician NV-1715-1537

ATM13-II
- ATM13-II Magnetic Tape Transport Unit (MTTU) Intermediate Maintenance NV-1715-1629

Atmosphere
- Atmosphere Analyzer Central Atmosphere Monitoring System (CAMS) Mk 1 NV-1715-0496
- Atmosphere Support Equipment Maintenance NV-1715-1307
- Submarine Atmosphere Support System Maintenance NV-1704-0456
- Trident Ship Control and Atmosphere Support Technician Level 1 NV-1715-1309
- Trident Ship Control and Atmosphere Support Technician Level 2 NV-1715-1172
- Trident Ship Control and Atmosphere Support Technician Level 3 NV-1715-1173

Atmospheric
- Trident Submarine Atmospheric Support System Maintenance NV-1731-0001

Attack
- AN/ASM-686 Night Attack Intermediate Avionics Test Set Operator/Maintenance NV-1402-0201
- EA-6B Integrated Electronic Attack System (CAREER) Organizational Maintenance NV-1715-1613
- Electronics Technician, Class A for Attack Class Submarines NV-1715-1556

Attitude
- A-7A/B Attitude Heading and Reference System Intermediate Maintenance NV-1721-0006
- AN/ASN-50 Attitude Heading Reference System Intermediate Maintenance NV-1715-0534

Audio
- Single Audio System Maintenance NV-1715-1602

Audiovisual
- Audiovisual Managers NV-1709-0036

Automated

AN/SYQ-7(V)3 Naval Modular Automated Communications System NV-0505-0003

AN/SYQ-7(V)3 Naval Modular Automated Communications Systems (NAVMACS V3) NV-1715-1775

AN/SYQ-7(V)3 Naval Modular Automated Communications Systems NAVMACS V3 Maintenance NV-1715-0875

AN/SYQ-7(V)3 Naval Modulated Automated Communications System Operator NV-0505-0002

AN/SYQ-7(V)5 Naval Modular Automated Communications System (NAVMACS V5) Operator NV-1715-1595

AN/SYQ-7(V)5 Naval Modular Automated Communications System Operator NV-1715-1595

AN/SYQ-7(V)5 Naval Modular Automated Communications Systems (NAVMACS V5) Maintenance NV-1715-1781

Automated Propulsion System Maintenance NV-1710-0090

Automated Tactical Reconnaissance Systems (TACRECCE) Support Afloat NV-1709-0040

Automated Telecommunications Systems Technician, Class C7 NV-1408-0030

Food Service Management Automated Recordskeeper NV-1729-0013

Integrated Submarine Automated Broadcast Processing System NV-1402-0132

Naval Modular Automated Communications System (NAVMACS) A+ Maintenance NV-1715-0875

Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management NV-1715-1779

Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator NV-0505-0001

Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator NV-0505-0004

Automated Data Processing

Shipboard Non-Tactical Automated Data Processing (SNAP 2) Ship System Coordinator NV-1715-1547

Shipboard Non-Tactical Automated Data Processing (SNAP 3) System Administration NV-1402-0232

Shipboard Non-Tactical Automated Data Processing (SNAP) NV-1715-1265

Shipboard Non-Tactical Automated Data Processing (SNAP) Basic Operator, Class C1 NV-1402-0172

Shipboard Uniform Automated Data Processing System Real Time Operations and Management NV-1402-0149

Uniform Automated Data Processing (ADP) System Stock Points NV-1408-0025

Automatic

A-7 AN/ASW-26/30 Automatic Flight Control System Intermediate Maintenance NV-1715-0617

AN/ASW-40, 41, and 42 Automatic Flight Control System Intermediate Maintenance NV-1704-0409

AN/USM-403 Hybrid Automatic Test Set (HATS) Operator NV-1715-1193

Aviation Support Equipment Automatic Transmission Intermediate Maintenance NV-1703-0010

Bailey Automatic Boiler Control Console Operator NV-1710-0085

Bailey Automatic Boiler Control Maintenance NV-1710-0074

CU-2070/ARC Automatic Antenna Coupler Intermediate Maintenance NV-1715-1020

Dynalec 200/700 Line Automatic Telephone Maintenance NV-1404-0010

FFG-7/MCD-1 Automatic Degaussing System Maintenance NV-1714-0084

Fully Automatic Switching Terminal NV-1715-1110

General Regulator Automatic Boiler Control (ABC) Console Operator NV-1710-0157

General Regulator Automatic Boiler Control (ABC) Maintenance NV-1710-0155

General Regulator Automatic Boiler Control Console Operator NV-1710-0079

General Regulator Automatic Boiler Control Maintenance NV-1710-0072

H-46 Automatic Flight Control Systems (AFCS) Organizational Maintenance NV-1704-0393

Hagan Automatic Boiler Control (ABC) Console Operator NV-1710-0160

Hagan Automatic Boiler Control Console (ACC) Operator NV-1710-0078

Hagan Automatic Boiler Control Maintenance NV-1710-0073

Landing Helo Auxiliary (LHA) Intelligence Center (IC) Afloat Automatic Data Processing (ADP) Operator NV-1402-0101

Model 28 Automatic Send Receive Teletype Maintenance NV-1715-0662

P-3C AN/ASW-31 Automatic Flight Control System Intermediate Maintenance NV-1715-1579

SH-2F Automatic Stabilization NV-1704-0291

SH-3 Automatic Stabilization Equipment Organizational Maintenance NV-1704-0006

SH-60B Automatic Flight Control System Organizational Maintenance NV-1715-1197

SSM Automatic Degaussing System Maintenance for DD-963 Class NV-1714-0085

Steam Plant Automatic Controls Maintenance (Bailey Meter) NV-1710-0074

Steam Plant Automatic Controls Maintenance (General Regulator) NV-1710-0072

Steam Plant Automatic Controls Maintenance (Hagan) NV-1710-0073

Automatic Data Processing

AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System, Automatic Data Processing (ADP) Communications Operator NV-1402-0102

Automatic Data Processing Maintenance NV-1402-0130

Landing Helo Auxiliary (LHA) Intelligence Center (IC) Afloat Automatic Data Processing (ADP) Operator NV-1402-0101

Shipboard Non-Tactical Automatic Data Processing (SNAP 1) System Enlisted Supervisor/Operator NV-1402-0150

Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat NV-1402-0152

Shipboard Non-Tactical Automatic Data Processing (SNAP 2) System Coordinator NV-1402-0151

Shipboard Non-Tactical Automatic Data Processing (SNAP) 3-M Coordinator/Inspector NV-1402-0153

Shipboard Nontactical Automatic Data Processing (ADP) Program 2 (SNAP 2) AN/UYK-62(V) Maintenance NV-1402-0131

Autopilot

P-3 PB-20N Autopilot System Intermediate Maintenance NV-1715-0462

Auxiliaries

Basic Hydraulics for FFG-7 Auxiliaries NV-1704-0390

Auxiliary

Advanced Auxiliary Equipment Package NV-1723-0016

AN/BQQ-5E Auxiliary Equipment NV-1715-1838

Auxiliary Machinery Controls, Governors and Regulators Maintenance NV-1710-0086

Auxiliary Machinery Turbine Maintenance NV-1704-0321

Auxiliary Power Unit First Degree Intermediate Maintenance Repair NV-1704-0382

Auxiliary Turbine Maintenance NV-1704-0321

DD-963 Auxiliary Systems Technician NV-1704-0265

Engineman Six Year Obligor Advanced Operator/Maintenance Auxiliary Strand NV-1710-0123

FFG-7 Auxiliary 16V149TI Diesel Engine Maintenance NV-1712-0027

FFG-7 Auxiliary Electrical System Technician NV-1714-0070

FFG-7 Auxiliary Electrical Systems NV-1714-0031

FFG-7 Auxiliary Electrical Systems Maintenance
NV-1714-0031
FFG-7 Auxiliary Mechanical Subsystem Technician
NV-1704-0270
FFG-7 Auxiliary Mechanical Subsystem Technician, Class C1
NV-1715-1073
FFG-7 Auxiliary Mechanical System Technician
NV-1704-0271
NV-1704-0391
FFG-7 Auxiliary Mechanical Systems Maintenance
NV-1732-0023
FFG-7 Class Ship Auxiliary Electrical Subsystem
NV-1714-0043
FFG-7 Class Ship Auxiliary Electrical Subsystem Technician
NV-1714-0030
FFG-7 Class Ship Auxiliary Electrical System Technician
NV-1732-0010
Sonar Auxiliary Equipment Combined Maintenance Revision A
NV-1715-1270
Trident Submarine Auxiliary Equipment Technician Level 2
NV-1704-0318
Trident Submarine Auxiliary Equipment Technician Level 3
NV-1712-0030
Trident Submarine Auxiliary Equipment Technician Replacement Level 1
NV-1732-0016
WR-27 Auxiliary Power Unit Intermediate Maintenance
NV-1704-0296

AV-88B

AV-88B 25mm Gun System Intermediate Maintenance
NV-2202-0167

AV-8B

AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance
NV-1704-0399
AV-8B Aircraft Communication/Navigation/Weapons System Specialist Organizational Maintenance
NV-1704-0407
AV-8B Aircraft Electrical Systems Technician Integrated Organizational Maintenance
NV-1704-0404
AV-8B Aircraft Hydraulic/Pneumatic Mechanic Integrated Organizational Maintenance
NV-1704-0402
AV-8B Aircraft Mechanic Integrated Organizational
NV-1704-0398
AV-8B Aircraft Ordnance Technician Integrated Organizational Maintenance
NV-1704-0403
AV-8B Aircraft Safety Equipment Mechanic Integrated Organizational Maintenance
NV-1704-0401
AV-8B Aircraft Structures Mechanic Integrated Organizational Maintenance
NV-1704-0400
AV-8B Aircraft Wire/Connector and Fiber Optics Repair/Assembly Organizational Maintenance
NV-1715-1728

Aviation

Advanced Aviation Storekeeper
NV-1405-0033
Aviation Antisubmarine Warfare (ASW) Operator, Class A1
NV-1715-1436
Aviation Armament Equipment Repair Intermediate Maintenance
NV-1704-0408
Aviation Boatswain's Mate (Launch and Recovery Equipment), Class A1
NV-1704-0310
Aviation Boatswain's Mate Aircraft Handling Advanced, Class C1
NV-1704-0416
Aviation Boatswain's Mate Aircraft Handling, Class A1
NV-1704-0417
NV-1728-0020
Aviation Boatswain's Mate E Launching and Recovery Equipment, Class A1 Common Core
NV-1704-0310
Aviation Boatswain's Mate Equipment, Class A1 Common Core
NV-1704-0310
Aviation Boatswain's Mate Equipment, Class A1, C13 Track
NV-1704-0302
Aviation Boatswain's Mate Equipment, Class A1, C7/C11 Track
NV-1704-0311
Aviation Boatswain's Mate Equipment, Class C1, C13 Mod 1 Track
NV-1704-0307
Aviation Boatswain's Mate Fuels, Class A1
NV-1704-0306
Aviation Boatswain's Mate Fuels, Class C1
NV-1704-0309
Aviation Boatswain's Mate Fuels, Class C2
NV-1704-0418
Aviation Boatswain's Mate Handling, Class A1
NV-1728-0020
Aviation Boatswain's Mate Handling, Class A1 (Sea Track)
NV-1728-0019
Aviation Boatswain's Mate Handling, Class C1, (Sea Track)
NV-1704-0301
Aviation Electrician's Mate Intermediate, Class C7
NV-1714-0052
Aviation Electrician's Mate Strand, Class A1
NV-1715-1820
Aviation Electrician's Mate, Class A1
NV-1714-0051
Aviation Electronic Warfare Fundamentals and Organizational Level Maintenance
NV-1715-1651
Aviation Electronic Warfare Intelligence Operator
NV-1715-1689
Aviation Electronic Warfare Operator
NV-1715-1880
Aviation Electronic Warfare, Receivers, Analyzer, Recorder and Display Intermediate Level Maintenance
NV-1715-1149
Aviation Electronics Warfare Fundamentals
NV-1715-1146
Aviation Electronics Warfare Intermediate Level Maintenance
NV-1715-1149
Aviation Electronics Warfare O Level Maintenance
NV-1715-1147
Aviation Fuel System, Class C2
NV-1704-0418
Aviation Fuel Systems, Class C1
NV-1704-0309
Aviation Machinist Mate Common Core, Class A1
NV-1704-0429
Aviation Machinist Mate Helicopter Fundamentals Strand, Class A1
NV-1704-0430
Aviation Machinist Mate Turbojet Fundamentals, Class A1
NV-1704-0432
Aviation Machinist Mate Turboprop Fundamentals Strand, Class A1
NV-1704-0431
Aviation Machinist's Mate, Class A (S-3A), Power Plant Systems
NV-1703-0014
Aviation Machinist's Mate, Class A, (A7) Power Plant System
NV-1704-0249
Aviation Machinist's Mate, Class A, (P-3) Power Plant System, Class A1
NV-1715-1026
Aviation Machinist's Mate, Class A1
NV-1704-0324
Aviation Maintenance Administration, Class A1
NV-1409-0011
Aviation Maintenance Data Analysis, Class C
NV-1402-0018
Aviation Maintenance Program Indoctrination, Class A2
NV-1405-0036
Aviation Maintenance Program Management, Class A2
NV-1405-0035
Aviation Medicine Technic
NV-0709-0003
Aviation Medicine Technician, Class C
NV-0709-0003
Aviation Officer Candidate
NV-2202-0033
Aviation Ordnance Munitions Technician Intermediate Maintenance
NV-2202-0168
Aviation Ordnance Officer Career Progression Level 1
NV-1406-0028
Aviation Ordnance Officer Career Progression Level 2
NV-1406-0029
Aviation Ordnance Officer Career Progression Level 3
NV-1406-0030
Aviation Ordnance, Class A1
NV-1715-1437
Aviation Ordnanceman Airwing Strand, Class A1
NV-1714-0078
Aviation Ordnanceman Common Core, Class A1
NV-1714-0077
Aviation Ordnanceman Weapons Department Strand, Class A1
NV-1714-0079
Aviation Squadron Electronic Warfare (EW) Officer, Class A2
NV-1715-0831

Aviation Storekeeper Advanced Training, Class C
NV-1405-0020
Aviation Storekeeper, Class A
NV-1405-0004
NV-1405-0027
Aviation Structural Mechanic (Hydraulic), Class A1
NV-1704-0128
Aviation Structural Mechanic (Safety Equipment), Class A1
NV-1704-0325
Aviation Structural Mechanic (Structures), Class A1
NV-1704-0132
Aviation Structural Mechanic E (Safety Equipment) Common Core, Class A1
NV-1704-0438
Aviation Structural Mechanic E (Safety Equipment) Egress Strand, Class A1
NV-1704-0439
Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1
NV-1704-0440
Aviation Structural Mechanic H (Hydraulics) Intermediate Level, Class A1
NV-1704-0442
Aviation Structural Mechanic H (Hydraulics) Organizational Level, Class A1
NV-1704-0441
Aviation Structural Mechanic H (Hydraulics), Class A
NV-1704-0128
Aviation Structural Mechanic S (Structures) Common Core, Class A1
NV-1704-0433
Aviation Structural Mechanic S (Structures), Class A
NV-1704-0132
Aviation Support Equipment A/S 32P-16 Fire Fighting Truck Intermediate Maintenance
NV-1703-0016
Aviation Support Equipment A/S32A-33 Aircraft Towing Tractor Intermediate Maintenance
NV-1703-0015
Aviation Support Equipment Automatic Transmission Intermediate Maintenance
NV-1703-0010
Aviation Support Equipment Cryogenic Intermediate Maintenance
NV-1704-0255
Aviation Support Equipment Detroit Series 53 Diesel Intermediate Maintenance
NV-1712-0021
Aviation Support Equipment Diesel Engine Driven Fork Lift Trucks Intermediate Maintenance
NV-1710-0136
Aviation Support Equipment GTCP-100 and Enclosures Intermediate Maintenance
NV-1704-0109
Aviation Support Equipment GTCP-100 Engine Intermediate Maintenance
NV-1704-0109
Aviation Support Equipment LHA-1 Pallet Transporter Intermediate Maintenance
NV-1703-0017
Aviation Support Equipment Mobile Air Conditioning Intermediate Maintenance
NV-1701-0008
Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance
NV-1715-0698
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance
NV-1715-0698
Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance
NV-1715-0700
Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance
NV-1704-0353
Aviation Support Equipment Technician Electrical
NV-1714-0019
Aviation Support Equipment Technician, Class A1
NV-1704-0326
Aviation Support Equipment UD-282 and Detroit Series 53 Diesel Engines Intermediate Maintenance
NV-1712-0021
Aviation Technician Common Core, Class A1
NV-1715-1819
Aviation Technician Level 1 Strand, Class A1
NV-1715-1816
Aviation Technician O Level Strand, Class A1
NV-1715-1817
Aviation Technician Organizational Level Strand, Class A1
NV-1715-1817
F/A-18 Aviation Hydraulic/Structure Mechanic Consolidated Organizational Maintenance
NV-1704-0386
Joint Aviation Supply and Maintenance Material Management
NV-1405-0009
Marine Aviation Logistics Computer Operator
NV-1402-0174
Marine Aviation Operations Specialist
NV-1409-0010
Marine Aviation Supply (Mechanized), Class C
NV-1405-0007
Marine Aviation Supply Mechanized, Class C1
NV-1405-0030
Marine Aviation Supply Senior Enlisted
NV-1405-0026
Marine Corps Aviation Supply Officer Qualification
NV-1408-0024
Naval and Marine Aviation Electronic Warfare Officer
NV-2202-0166
Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst
NV-1402-0231
Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst
NV-1402-0230
Naval Aviation Logistics Data Analysis (NALDA)
NV-1402-0154
P-3 Aviation Machinist's Mate (AD) Entry Level
NV-1715-1026
Senior Aviation Maintenance Officer, Class C2
NV-1406-0031
SH-2 Aviation Machinist's Mate Power Plant System
NV-1704-0289
SH-3 Aviation Machinist's Mate, Class A Power Plant Systems
NV-1704-0297
Supply Corps Officer Basic Qualification Aviation Management
NV-1405-0012

Avionic
AN/USM-247(V) Versatile Avionic Shop Test (VAST) On Line Intermediate Maintenance
NV-1715-1630
AN/USM-470(V)2 Avionic Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance
NV-1715-1693

Avionics
A-7A/B Integrated Avionics Weapons System Technician Organizational Maintenance
NV-1715-0450
Advanced Avionics Integrated Computer System Maintenance, Class C7
NV-1715-1753
Advanced Avionics Integrated Weapons Systems Maintenance, Class C1
NV-1715-1753
Advanced First Term Avionics, Class A1
NV-1715-1424
AN/ASM-686 Night Attack Intermediate Avionics Test Set Operator/Maintenance
NV-1402-0201
AN/USM(V) Versatile Avionics Shop Test (VAST) Operator
NV-1402-0176
AN/USM-470(V)1 Avionics Test Set Technician Intermediate Maintenance
NV-1715-1698
AN/USM-470(V)2 Avionics Test Set Technician Intermediate Maintenance
NV-1715-1700
Avionics Intermediate, Class C7
NV-1715-1438
Avionics Systems Integration, Class A1
NV-1715-1755
Avionics Technician, Class A1
NV-1715-1439
NV-1715-1440
C-2A (Reprocured) Avionics Systems Integrated Organizational Maintenance
NV-1704-0371
C-2A Avionics Systems Organizational Maintenance
NV-1715-1217
E-6A Flight Deck Avionics Systems Organizational Maintenance
NV-1715-1826
E-6A Mission Avionics System Intermediate Maintenance
NV-1715-1827
E-6A Mission Avionics System Organizational Maintenance
NV-1715-1823
F-14D Avionics Technician Integrated Organizational Maintenance
NV-1715-1634
P-3C Integrated Avionics System (Update I) Organizational Maintenance
NV-1715-1025

P-3C Integrated Avionics System Data Processing Systems 1 and 2 Integrated Organizational Maintenance NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems 1 and 2 Organizational Maintenance NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems One and Three Organizational Maintenance NV-1704-0348
P-3C Integrated Avionics System Sensor Station 3 Integrated Organizational Maintenance NV-1715-1679
P-3C Integrated Avionics System Sensor Station One and Two Systems Integrated Organizational Maintenance NV-1715-1673
P-3C Integrated Avionics System Sensor Station One and Two Systems Organizational Maintenance NV-1715-1673
P-3C Integrated Avionics System Sensor Station Three Systems Organizational Maintenance NV-1704-0350
P-3C Integrated Avionics System Technician NV-1715-0329
P-3C Integrated Avionics System, Display Systems Organizational Maintenance NV-1704-0349
P-3C Integrated Avionics Systems CP-901(V)/ASQ-114(V) Integrated Organizational Maintenance NV-1715-1665
P-3C Integrated Avionics Systems CP-901(V)3 and 4/114(V) Organizational Maintenance NV-1715-1665
P-3C Integrated Avionics Systems Data Processing Systems 1 and 3 Integrated Organizational Maintenance NV-1715-1683
P-3C Integrated Avionics Systems Display Systems Integrated Organizational Maintenance NV-1715-1682
P-3C Integrated Avionics Systems Integrated Organizational Maintenance Full Systems Troubleshooting NV-1715-1690
P-3C Integrated Avionics Systems Navigation/Communication Systems Integrated Organizational Maintenance NV-1715-1680
P-3C Integrated Avionics Systems Update Navigation/Communication Systems Organizational Maintenance NV-1704-0351
P-3C Integrated Avionics Update III Integrated Organizational Maintenance NV-1715-1664
SH-2F Light Airborne Multipurpose Systems (LAMPS) Avionics Equipment Organizational Maintenance NV-1715-1515
TACAMO Communication and Avionics System Operation NV-1715-1182

AW/SQQ 89(V)-T
AW/SQQ 89(V)-T Onboard Trainer Operator and Administration NV-1715-1780

AWM-23(V)
OJ-621A/AWM-23(V) (AWG-9) Module Test Station (MTS) Intermediate Maintenance NV-1715-1633

AXR/CX
Sonar AN/SQS-26 AXR/CX Maintenance NV-1715-1275

Azimuth
AN/SRN-15 TACAN Distance Azimuth Measuring Equipment (DAME) Maintenance NV-1715-0175

B/UYK
Computer CP-890A B/UYK Input/Output Controller Maintenance NV-1402-0234
Computer CP-890A B/UYK Processor Maintenance NV-1402-0235
Computer CP-890A, B/UYK Input/Output Controller Maintenance NV-1402-0079
Computer DP-890A and B/UYK Processor Maintenance 2 NV-1402-0080
Digital-to-Digital Converter CV-2342 B/UYK Maintenance NV-1402-0138

Bachelor
Bachelor Quarters Management NV-0401-0001

Bailey
Bailey Automatic Boiler Control Console Operator NV-1710-0085
Bailey Automatic Boiler Control Maintenance NV-1710-0074
Steam Plant Automatic Controls Maintenance (Bailey Meter) NV-1710-0074

Ballast
Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance NV-1715-1312

Ballistic
Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile Navigation Maintenance NAVAIDS NV-1715-1383
Fleet Ballistic Missile Tender Navigation Maintenance Computer NV-1715-1402
Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System NV-1715-0065

Band
Narrow Band Secure Voice Stand Alone Maintenance NV-1715-1100

Bandleader
Assistant Bandleader NV-1205-0002
Enlisted Bandleader NV-1205-0006

Bandsman
Bandsman Basic (Army) NV-1205-0001

Barber
Shipboard Barber NV-1726-0001

Barge
Barge Ferry Coxswain NV-1722-0012
Barge Ferry Engineer O Level Maintenance NV-1712-0035
Barge Ferry Pilot NV-1722-0011

Baseline
Ocean Surveillance Information System (OSIS) Baseline Upgrade Computer User NV-1402-0117
Ocean Surveillance Information System (OSIS) Baseline Upgrade System Management NV-1402-0119
Tartar CGN-36 Baseline Medium Range Missile Systems Technician NV-1715-1739

Basic
AN/BQQ-5E V3/V4 Basic Operator Conversion NV-1715-1837
Bandsman Basic (Army) NV-1205-0001
Basic Acoustic Analysis NV-1715-1852
Basic Acoustic Analysis Refresher NV-1715-1847
Basic Course, Class A NV-1205-0001
Basic Diving Officer NV-0803-0008
Basic Military Training NV-2202-0014
Basic Officer Leadership NV-1717-0031
Basic Training NV-2202-0165
Boatswain's Mate Skills Basic NV-1708-0002
Job Oriented Basic Skills (JOBS), Class AP-1, Electronics Ratings, Strand 4 NV-0501-0003
Job Oriented Basic Skills (JOBS), Class AP-1, Mechanical Ratings, Strand 7 NV-0501-0004
Job Oriented Basic Skills (JOBS), Class AP-1, Operations Ratings, Strand 2 NV-0501-0002
Job Oriented Basic Skills (JOBS), Strand 3 NV-1409-0013
Job Oriented Basic Skills, Strand 1 NV-0501-0001
Job Oriented Basic Skills, Strand 6, Electrical, Class AP NV-1714-0063
Music, Class A, Basic NV-1205-0001
Naval School of Music, Class A, Basic NV-1205-0001
Torpedoman's Mate Basic NV-1715-1488

Battle
Battle Force ELINT Analyst NV-1715-1873

Beacon
- AN/APN-154(V) Radar Beacon Intermediate Maintenance NV-1715-0584
- AN/UYA-4 Display Maintenance Includes Beacon Video Processor NV-1715-1259

Biological
- Disaster Recovery Training Chemical, Biological, and Radiological NV-0802-0011
- Shipboard Chemical, Biological, and Radiological Defense Operations and Training Specialist NV-0801-0012

BITMAN
- AN/GYK-22 (BITMAN) Maintenance NV-1402-0063

Blower
- Forced Draft Blower Maintenance NV-1710-0110

Boat
- Assault Boat Coxswain NV-1722-0015
- Small Boat Engine Overhaul NV-1712-0034
- Small Boat Engine Overhaul Technician NV-1712-0045
- Small Boat Engineer NV-1712-0036

Boatswain's
- Aviation Boatswain's Mate (Launch and Recovery Equipment), Class A1 NV-1704-0310
- Aviation Boatswain's Mate Aircraft Handling Advanced, Class C1 NV-1704-0416
- Aviation Boatswain's Mate Aircraft Handling, Class A1 NV-1704-0417 NV-1728-0020
- Aviation Boatswain's Mate E Launching and Recovery Equipment, Class A1 Common Core NV-1704-0310
- Aviation Boatswain's Mate Equipment, Class A1 Common Core NV-1704-0310
- Aviation Boatswain's Mate Equipment, Class A1, C13 Track NV-1704-0302
- Aviation Boatswain's Mate Equipment, Class A1, C7/C11 Track NV-1704-0311
- Aviation Boatswain's Mate Equipment, Class C1, C13 Mod 1 Track NV-1704-0307
- Aviation Boatswain's Mate Fuels, Class A1 NV-1704-0306
- Aviation Boatswain's Mate Fuels, Class C1 NV-1704-0309
- Aviation Boatswain's Mate Fuels, Class C2 NV-1704-0418
- Aviation Boatswain's Mate Handling, Class A1 NV-1728-0020
- Aviation Boatswain's Mate Handling, Class A1 (Sea Track) NV-1728-0019
- Aviation Boatswain's Mate Handling, Class C1, (Sea Track) NV-1704-0301
- Boatswain's Mate Fundamentals NV-1708-0002
- Boatswain's Mate Skills Basic NV-1708-0002

Boiler
- Bailey Automatic Boiler Control Console Operator NV-1710-0085
- Bailey Automatic Boiler Control Maintenance NV-1710-0074
- Boiler Repair Technician NV-1710-0022
- Boiler Technician (1200 PSI), Class A1 NV-1710-0084
- Boiler Technician 6 Year Option (6YO) Advanced Maintenance Phase 3, Class C1 NV-1710-0081
- Boiler Technician Six Year Obligator (BT 6YO) Advanced Operator NV-1710-0104
- Boiler Technician Six-Year Obligator (BT-6YO) Advanced Maintenance NV-1710-0124
- Boiler Technician Steam Propulsion Maintenance Supervisor NV-1710-0109
- Boiler Technician, Class A NV-1710-0129
- Boiler Technician, Class A (1200 PSI) NV-1710-0129
- Boiler Technician/Maintenance Management Six Year Option NV-1710-0081 NV-1710-0094
- Boiler Water/Feed Water Test and Treatment Instructor Certification NV-1601-0022
- DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator NV-1601-0025
- General Regulator Automatic Boiler Control (ABC) Console Operator NV-1710-0157
- General Regulator Automatic Boiler Control (ABC) Maintenance NV-1710-0155
- General Regulator Automatic Boiler Control Console Operator NV-1710-0079
- General Regulator Automatic Boiler Control Maintenance NV-1710-0072
- Hagan Automatic Boiler Control (ABC) Console Operator NV-1710-0160
- Hagan Automatic Boiler Control (ABC) Maintenance NV-1710-0156
- Hagan Automatic Boiler Control Console (ACC) Operator NV-1710-0078
- Hagan Automatic Boiler Control Maintenance NV-1710-0073
- Utilitiesman Shore Based Boiler Controls Technician, Class C NV-1710-0133

Bombing
- Angle Rate Bombing Set (ARBS)/Operational Test Program Set (OTPS) Intermediate Level Maintenance NV-1714-0072

Bowsprit
- Universal Cryptologic Processor Training Classic Bowsprit Sail Maintenance NV-1402-0107

Box
- Armored Box Launcher Maintenance and All Up Round Handling NV-1715-1541

Braze
- Nondestructive Testing of Metals Ultrasonic Silver Braze Inspection, Class C1 NV-1724-0004

Brazing
- Fuel Gas Welding, Brazing, and Cutting NV-1710-0116

Breathing
- Special Warfare Mk 15 Underwater Breathing Apparatus NV-0709-0023

Broadcast
- Broadcast Control Authority (BCA) Operational Control Center Operator NV-1715-1138
- Integrated Submarine Automated Broadcast Processing System NV-1402-0132
- Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator NV-0505-0001
- Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator NV-0505-0004

Bromide
- Lithium Bromide Air Conditioning NV-1701-0002
- Lithium Bromide Air Conditioning Plant Operator NV-1701-0002
- Lithium Bromide Maintenance, Class F1 NV-1730-0010

Builder
- Advanced Builder NV-1710-0120
- Builder Tool and Equipment Maintenance NV-1002-0002
- Builder Tool and Equipment Maintenance Technician NV-1002-0002
- Builder, Class A NV-1710-0118
- Builder, Class A, Air Force NV-1710-0167
- Builder, Class A, Army NV-1710-0170
- Builder, Class A, Navy NV-1710-0118
- Builder, Class C-1 Advanced NV-1710-0120

Bullseye
- Bullseye Outstation Operator NV-1402-0190

Burner
- Carbon Dioxide Scrubber and Carbon Monoxide/Hydrogen Burner Combined Maintenance NV-1732-0013

C-2A
- C-2A (Reprocured) Avionics Systems Integrated Organizational Maintenance NV-1704-0371
- C-2A AN/ARN-81 Loran Intermediate Maintenance NV-1715-0247

C-2A Avionics Systems Organizational Maintenance
NV-1715-1217
C-2A Electrical and Instruments Integrated Organizational Maintenance
NV-1704-0365

C-8610/AWE
C-8610/AWE Armament Control Panel Intermediate Maintenance
NV-1715-1413

Cabinet
Passive Equipment Cabinet (PEC) Operation and Maintenance
NV-1715-1502

Cable
Construction Electrician Power and Communications Cable Splicing
NV-1714-0059

Caliber
16"/50 Caliber Gun System
NV-1715-1293
3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35)
NV-1715-0655
5"/38 Caliber Gun Operation and Maintenance, Class C
NV-2202-0158
5"/38 Caliber Gun System
NV-1715-1292
76mm/62 Caliber Mk 75 Mods 0/1 Gun Operation and Maintenance
NV-1715-1179
76mm/62 Caliber Mod 0/1 Gun Operation and Maintenance
NV-1715-1179
Gun Maintenance 5"/54 Caliber Rapid Fire Mk 42
NV-1715-0179
Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount
NV-1715-0147

Calibration
Advanced Calibration Technician
NV-1715-1829
Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration
NV-1715-1374
AN/ARM-155-156 TACAN Test Sets and UN/UPM-137A Radar Test Set Calibration/Repair Intermediate Maintenance
NV-1715-1562
Electrostatically Supported Gyro Monitor (ESGM) Calibration
NV-1715-1375
NV-1715-1458
Field Calibration Activity Maintenance
NV-1715-1591
General Purpose Electronic Test Equipment (GPETE) Field Calibration Activity Operator
NV-1715-1782
General Purpose Electronic Test Equipment (GPETE) Fleet Electronic Calibration Laboratory Maintenance
NV-1715-1783
General Purpose Electronic Test Equipment Repair and Calibration
NV-1715-1828
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems Phases B/D
NV-1715-1495
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems, Phases B/D
NV-1715-1495
Intermediate Level Test Equipment Calibration
NV-1715-1496
Oxygen Equipment Cleaning and Calibration
NV-1601-0033
Physical Dimensional Measurement and Calibration
NV-1606-0082
Radiation Detection Indication, and Computation (RADIAC) Equipment Calibration and Repair
NV-1715-1860
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration
NV-1715-0202
Shipboard Gage Calibration Program Standards Maintenance
NV-1601-0034
Shipboard Gauge Calibration Program Standards Maintenance
NV-1601-0034
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Calibration
NV-1715-1374

Camera
KA-99A Camera and Camera Test Set Intermediate Level Maintenance
NV-1721-0014
KS-153A Camera Intermediate Maintenance
NV-1721-0016
KS-87D Camera Set Intermediate Maintenance
NV-1721-0015

Candidate
Aviation Officer Candidate
NV-2202-0033
Officer Candidate
NV-2204-0001

Canvasser
Recruiter Canvasser
NV-1406-0016

CAPTOR
Underwater Mine Mk 60 (CAPTOR)
NV-2202-0106

Carbon
Carbon Dioxide Scrubber and Carbon Monoxide/Hydrogen Burner Combined Maintenance
NV-1732-0013

Card
RD-293/UYK-5 Card Reader Punch Maintenance
NV-1715-0031

Cardiopulmonary
Cardiopulmonary Technician, Class C
NV-0709-0018

Cardiovascular
Cardiovascular Technician, Class C
NV-0709-0018

Career
Aviation Ordnance Officer Career Progression Level 1
NV-1406-0028
Aviation Ordnance Officer Career Progression Level 2
NV-1406-0029
Aviation Ordnance Officer Career Progression Level 3
NV-1406-0030
Command Career Counselor
NV-1406-0020

Cargo
Cargo Offload and Discharge System/Container Offloading and Transfer Systems (COLD/COTS)
NV-1731-0004
Cargo Weapons Elevator Maintenance
NV-1704-0323

Carrier
15G21 Carrier Air Traffic Control Simulator Maintenance, Class C1
NV-1715-1187
Aircraft Carrier Inertial Navigation System Operation and Maintenance
NV-1402-0225
AN/TPX-42A(V)8 Carrier Air Traffic Control Center (CATCC) Direct Altitude Identity Readout (DAIR) Maintenance, Class C1
NV-1715-1434
Carrier Air Traffic Control Center Operations
NV-1704-0415
Carrier Air Traffic Control Center Operations, Class C1
NV-1704-0245
Carrier Antisubmarine Warfare (ASW) Module 4.2 Automated Data Processing Operator
NV-1402-0166
Carrier Based Tactical Support Center Acoustic System Maintenance
NV-1715-1537

Catapult
Aircraft Launch and Recovery Equipment C13 Mod 1/2 Catapult
NV-1704-0307
Aircraft Launch and Recovery Equipment C13 Mod O Catapult, Class C1
NV-1704-0305
Aircraft Launch and Recovery Equipment C7/11 Catapult, Class C1
NV-1704-0424
CV Catapult Electrician
NV-1714-0042

Causeway
Elevated Causeway Navy Lighterage
NV-1601-0037

Celestial
Navigation Officer (Shipboard) and Celestial, Class C2
NV-2202-0107

Central
Atmosphere Analyzer Central Atmosphere Monitoring System (CAMS) Mk 1
NV-1715-0496
Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion
NV-1715-1131
FFG-7 Central Control Station Maintenance, Class C1
NV-1715-1074
FFG-7 Central Control Station Operation, Class C1
NV-1703-0012

Centrifugal
110 Ton R11 Centrifugal Air Conditioning Unit (York)
NV-1701-0004
Centrifugal Air Conditioning System Operation and Maintenance
NV-1701-0013

R-11 Centrifugal 110 Ton Air Conditioning Combined Maintenance
NV-1701-0004

Certification
Diesel Engine Inspector Training and Certification
NV-1712-0041
Marine Gas Turbine Inspector Training and Certification
NV-1710-0161
Miniature Microminiature Instructor Certification
NV-1715-1584
Miniature/Microminiature (2M) Electronics Repair Instructor Certification
NV-1715-1516

CG-47
Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47
NV-1715-1716

CGN
CGN Medium Range Missile System Technician New Threat Upgrade
NV-1715-1740
CGN/NTU Medium Range Missile System Technician
NV-1715-1740

CGN-36
CGN-36 Medium Range Missile System Technician New Threat Upgrade
NV-1715-1739
Tartar CGN-36 Baseline Medium Range Missile Systems Technician
NV-1715-1739

CGN-38
CGN-38/DDG-993 (SM-2) Combat Systems Operator
NV-2202-0119
Combat Systems Maintenance Management for the CGN-38
NV-1715-1043

CGN/SM-2
CGN/SM-2 Medium Range Missile System Technician
NV-1715-1260

Chaplain
Chaplain School Advanced
NV-1408-0032

Checkout
E-2A Computer Indicator Semi-Automatic Checkout Equipment (SACE) Operation and Maintenance
NV-1715-0318
Semi-Automatic Checkout Equipment (SACE) with INS/AFCS/ADC/UE Test Benches Intermediate Maintenance
NV-1715-1205
TS-2109/ASA-48 Semi-Automatic Checkout Equipment (SACE) Programmer Intermediate Maintenance
NV-1715-1206
TS-2109/OA-3739/OA-ASA 48 Semi-Automatic Checkout Equipment (SACE) Operator Intermediate Maintenance
NV-1715-1209
TS-2109/OA-3742/OA-6672 Semi-Automatic Checkout Equipment (SACE) Intermediate Operators
NV-1715-1216

Chemical
Disaster Recovery Training Chemical, Biological, and Radiological
NV-0802-0011
Shipboard Chemical, Biological, and Radiological Defense Operations and Training Specialist
NV-0801-0012

Chemistry
Operational Water Chemistry and Radiological Controls
NV-0801-0009

Chief
Chief Petty Officer Leadership
NV-1717-0028
Chief Warrant Officer/Limited Duty Officer (CWO/LDO) Leadership
NV-1717-0026
Cryptologic Combat Support Division Chief
NV-1402-0187
Limited Duty Officer (LDO) and Chief Warrant Officer (CWO) Indoctrination Training
NV-1408-0029
Limited Duty Officer/Chief Warrant Officer Indoctrination, Class PC
NV-1408-0029
Marine Air-Ground Task Force Intelligence (Intermediate) Chief
NV-1511-0036
Navy Leader Development Program (NAVLEAD) for Chief Petty Officers
NV-1717-0023
Outboard Division Chief
NV-1402-0186

Circuit
AN/SXQ-8(V)2 Secure Closed Circuit Television System Maintenance
NV-1709-0021
Basic Circuit Concepts
NV-1715-1294
Circuit Breakers and Controllers
NV-1715-0898
Controllers and Circuit Breakers Combined Maintenance
NV-1715-0898
NV-1715-1324
NV-1715-1803
NV-1715-1841
Controllers Circuit Breakers, Class F1
NV-1715-0898
CV Air Operations Closed Circuit Television (ILARTS) Maintenance
NV-1715-1229
Integrated Circuit Components (Microelectronics) Intermediate Maintenance
NV-1715-1022
Review of Basic Circuit Concepts for Electrician's Mate
NV-1715-1294
Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance
NV-1715-1230
Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE)
NV-1715-1230

Circuitry
Launcher Control Group Advanced Circuitry
NV-1715-1831
Missile Test and Readiness Equipment Mk 7 Mod 4 Advanced Circuitry
NV-1402-0089

Circuits
Electronic Special Circuits
NV-1715-1401

Classic
Universal Cryptologic Processor Training Classic Bowsprit Sail Maintenance
NV-1402-0107

Classification
Mobile Systems Technical Data Facility/SIGINT Classification of Recognized Emitters Maintenance
NV-1402-0181
SIGINT Classification of Recognized Emitters
NV-1402-0183

Clerk
Disbursing Clerk Financial Returns
NV-1408-0001
Disbursing Clerk Financial Returns, Class C
NV-1408-0001
Disbursing Clerk Travel Payments
NV-1408-0002
Disbursing Clerk, Class A1
NV-1401-0006
Disbursing Clerk, Class C (Financial Returns)
NV-1408-0001
Disbursing Clerk, Class C (Travel Payments)
NV-1408-0002
Legal Clerk
NV-1728-0028
Senior Disbursing Clerk Enlisted Refresher
NV-1401-0005

Clinical
Clinical Nuclear Medicine Technician
NV-0705-0008

Close-In
Close-In Weapon System Mk 15 Block 0/1 Difference
NV-1715-1387
Close-In Weapon System Mk 15 Mod 11/14 Operation and Maintenance
NV-1715-1388
Close-In Weapons System 15-1, Class C1
NV-1715-1068
Mk 15 Close-In Weapons Systems Operation and Maintenance
NV-1715-1530

Closed
AN/SXQ-8(V)2 Secure Closed Circuit Television System Maintenance
NV-1709-0021
CV Air Operations Closed Circuit Television (ILARTS) Maintenance
NV-1715-1229
Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance
NV-1715-1230
Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE)
NV-1715-1230

CM-453/ALQ-99D(V)
CM-453/ALQ-99D(V) and CM-484/ALQ-99F(V) Signal Comparator-Converters Intermediate Maintenance
NV-1715-1614

CM-484/ALQ-99F(V)
CM-453/ALQ-99D(V) and CM-484/ALQ-99F(V) Signal Comparator-Converters Intermediate Maintenance
NV-1715-1614

Coastal
Mine Hunter Coastal Machinery/Ship Control System Maintenance
NV-1715-1862

Collection
- Cryptologic Technician Collection Branch NV-1715-0836

College
- Joint Military Operations for College of Naval Warfare NV-2202-0132
- Maritime Operations for College of Naval Command and Staff NV-2202-0133

Combat
- Aegis Combat System Maintenance Manager (CG-47-64) NV-1715-1746
- Aegis Combat System Maintenance Manager (CG-65-73/DDG) NV-1715-1745
- Aegis Combat System Maintenance Supervisor NV-1715-1117
- AN/BSY-1(V) Combat Control Combined Maintenance NV-1715-1559
- AN/SQQ-89(V)1 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1508
- AN/SQQ-89(V)1/3 Antisubmarine Warfare Combat System Operator, Class C NV-1715-1508
- AN/SQQ-89(V)2 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1507
- AN/SQQ-89(V)2 Surface Antisubmarine Warfare Combat Systems Operator, Class C NV-1715-1507
- CG/CGN Combat Direction System Upgrade OJ-194A(V)3UYA-4(V) Display Maintenance Technician NV-1402-0222
- CG/GGN Combat Direction System Upgrade AN/UYK-43 Computer/Peripheral Maintenance Technician NV-1402-0223
- CG/GGN/DD-993 Combat Direction System Upgrade OJ-194A(V)3/UYA-4(V) Display Maintenance Technician NV-1402-0222
- CGN-38/DDG-993 (SM-2) Combat Systems Operator NV-2202-0119
- Combat Control Subsystems Mk 1 Mod 0 Pipeline Maintenance NV-1402-0144
- Combat Control System (CCS) Mk 1 Mod 0 Combined Maintenance NV-1715-1552
- Combat Control System (CCS) Mk 1 Mod 1 Combined Maintenance NV-1402-0169
- Combat Control System (CCS) Mk 1 Mod 2 Combined Maintenance NV-1402-0170
- Combat Direction Finding Maintenance NV-1715-1874
- Combat Direction Finding Operator NV-1715-1868
- Combat Information Center (CIC) Officer NV-2202-0125
- Combat Information Center (CIC) Procedures Advanced NV-2202-0130
- Combat Systems Electronics Administration Atlantic Fleet NV-1715-1784
- Combat Systems Maintenance Management for the CGN-38 NV-1715-1043
- Combat Systems Technical Core Electronics Technician/Fire Control Technician NV-1715-1788
- Cryptologic Combat Support Console Maintenance NV-1402-0194
- Cryptologic Combat Support Console/Cryptologic Combat Support Operations Division Officer NV-1404-0014
- Cryptologic Combat Support Division Chief NV-1402-0187
- Cryptologic Combat Support System/Console (CCSS/SC) NV-1402-0189
- Cryptologic Combat Support Systems Maintenance NV-1715-1645
- Cryptologic Combat Systems Operator NV-1402-0188
- CV/CVN Combat Direction Center Operator NV-1402-0238
- CV/CVN Combat Direction System (ASWM) Computer/Peripheral Subsystem Maintenance NV-1402-0220
- CV/CVN/LHD Combat Direction System AN/UYQ-21 Display Maintenance Technician NV-1402-0221
- DD-963 Combat System Maintenance Management NV-1715-1046
- Digital Combat Systems Common Core NV-1402-0148
- FC-1114 Combat System Computer System Maintenance Technician NV-1402-0121
- FFG-7 Class Combat System Officer NV-1715-1232
- Guided Missile Frigate (FFG-7) Combat Systems Maintenance NV-1715-1036
- Landing Force Ground Combat Element Communication Staff Planning NV-1715-1846

Combustion
- Internal Combustion Engine and Related Systems Intermediate Maintenance NV-1703-0019

Command
- Antisubmarine Warfare (ASW) Centers Command and Control System Operator NV-2202-0122
- Command and Control Processor Subsystem Operator NV-1402-0236
- Command and Control System (CCS) Advanced Level 3 NV-1402-0134
- Command and Control System Ashore Maintenance Technician NV-1402-0246
- Command and Control System Ashore Manager NV-1402-0245
- Command Career Counselor NV-1406-0020
- Command Control Systems Ashore Display Operator NV-1402-0237
- Command Control Systems Ashore System Manager NV-1402-0239
- Command Leadership NV-1717-0034
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation NV-1715-1397
- Encapsulated Harpoon Command and Launch Subsystem Combined Maintenance NV-1715-1011
- Harpoon Ship Command Launch Control Set Maintenance NV-1715-1063
- Maritime Operations for College of Naval Command and Staff NV-2202-0133
- National Security Decision Making for College of Naval Command and Staff NV-1511-0015
- National Security Decision Making for College of Naval Warfare and Naval Command College NV-1511-0014
- Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst NV-1402-0231
- Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst NV-1402-0230
- Naval Command Control System Ashore Maintenance Technician NV-1715-1815
- Naval Tactical Command System Afloat (Force Level) Maintenance NV-1715-1813
- Naval Tactical Command System Afloat Maintenance NV-1402-0243
- Naval Tactical Command System Afloat Maintenance 10-17 NV-1715-1813
- Navy Tactical Command System Afloat Integrated Data Base Analyst NV-1402-0204
- Navy Tactical Command System Afloat Intelligence Center Manager NV-1402-0205
- Navy Tactical Command System Afloat Operator NV-1402-0242
- Navy Tactical Command System Afloat Strike Planning (STRIKE) Application NV-1709-0040
- Navy Tactical Command System Afloat System Administration NV-1402-0206
- Navy Tactical Command System—Afloat Operational Intelligence Systems Afloat NV-1606-0087
- Officer in Tactical Command Information Exchange System NV-1715-1343
- Officer in Tactical Command Information Exchange System (TADIX Maintenance) NV-1715-1343
- Strategic Weapon System Command Poseidon Weapons Officer NV-1715-1395
- Strategy and Policy (College of Naval Command and Staff) NV-1511-0013

Strategy and Policy (College of Naval Warfare/Naval Command College) NV-1511-0012
Trident (ECS) Electronics Command and Control System Technician Conversion NV-1715-1362
Trident 1 Backfit Strategic Weapon Systems Command Replacement NV-1715-1398
Trident Command and Control System (CCS) Electronics Technician Conversion NV-1715-1364
Trident Command and Control System Level 1 NV-1402-0135
Trident Command and Control System Level 2 NV-1402-0136
Trident Defensive Weapons Subsystem/Command Subsystem (DWS/CS) Level 1 NV-1402-0123
Trident Defensive Weapons Subsystem/Command Subsystem Level 2 NV-1402-0087
Trident Defensive Weapons Subsystem/Command Subsystem Level 3 NV-1402-0088

Commercial
Commercial Satellite Equipment Maintenance NV-1715-1866

Commissary
Commissary Store Management NV-1408-0010
Navy Exchange/Commissary Store Middle Management, Class C NV-1408-0027

Commission
Direct Commission Officer Indoctrination Class PC NV-2204-0002

Commodore
Convoy Commodore and Staff Officer NV-2202-0163

Common
Afloat Cryptologic Management, Common Core NV-1402-0191
Aircrew Survival Equipmentman Common Core, Class A1 NV-1704-0434
AN/USQ-64(V) Common User Digital Information Exchange System (CUDIXS) Maintenance NV-1715-0872
Antisubmarine Warfare (ASW) Evaluator Common Core NV-1715-1509
Aviation Boatswain's Mate E Launching and Recovery Equipment, Class A1 Common Core NV-1704-0310
Aviation Boatswain's Mate Equipment, Class A1 Common Core NV-1704-0310
Aviation Machinist Mate Common Core, Class A1 NV-1704-0429
Aviation Ordnanceman Common Core, Class A1 NV-1714-0077
Aviation Structural Mechanic E (Safety Equipment) Common Core, Class A1 NV-1704-0438
Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1 NV-1704-0440
Aviation Structural Mechanic S (Structures) Common Core, Class A1 NV-1704-0433
Aviation Technician Common Core, Class A1 NV-1715-1819
Common User Digital Information Exchange System (CUDIXS) Maintenance NV-1715-0872
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) Common Core Maintenance NV-1402-0177
Digital Combat Systems Common Core NV-1402-0148
Engineering Common Core NV-0707-0003
Outboard Maintenance Common Core NV-1715-1637
Trident Common Navigation Technician Conversion NV-1715-1797
Weapon Direction System Mk 14 Mod 5 Operator (Common Program) NV-1402-0240

Communication
A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance NV-1715-0937
A-7E Communication, Navigation, Identification, and Countermeasures Organizational Maintenance NV-1704-0250
AN/ARC-182 Communication Equipment Intermediate Maintenance NV-1715-1694
AN/ARC-51, 51A and 51AX Communication Systems Intermediate Maintenance NV-1715-0710
AN/ARC-51, 51A, 51AX, 51B, RT-793/ASQ and RT-1010/ASQ-140 Communication Systems Intermediate Maintenance NV-1715-0710
AN/USM-467 Radar Communication Test Station Operator Intermediate Maintenance NV-1715-1417
AN/VCC-2, AN/VRC-46, and AN/SRA-60 Telephone-Telegraph Communication System NV-1715-0249
AN/WSC-3 UHF Defense Assigned Multiple Access (DAMA) Communication Set Maintenance NV-1715-1776
AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance NV-1704-0399
AV-8B Aircraft Communication/Navigation/Weapons System Specialist Organizational Maintenance NV-1704-0407
Communication System Technician NV-1715-1612
Data Link Communication System Maintenance Technician NV-1402-0211 NV-1402-0212
EA-6B I CAP 2 Communication, Navigation, and Radar Organizational Maintenance NV-1704-0357
H-46 Aircraft Communication, Navigation, and Identification Systems Organizational Maintenance NV-1715-1719
Integrated Voice Communication System (IVCS) AN/STC-1 NV-1715-1605
Integrated Voice Communication System (IVCS) AN/STC-2(V) Aegis, Maintenance, Class C1 NV-1715-1697
Integrated Voice Communication System (IVCS) Terminal Maintenance, Class C1 NV-1715-1608
Integrated Voice Communication System AN/STC-1 Maintenance NV-1715-1091
LHD Exterior Communication Operations NV-1715-1737
LHD Exterior Communication System Operations NV-1715-1737
MH-53E Communication, Navigation, and Identification (CNI) Systems Organizational Maintenance NV-1715-1522
OM-55/USC Super High Frequency Satellite Communication Modular Demodulator Group Maintenance NV-1715-1346
P-3 AN/ARC-51A Communication Systems Maintenance, No. 22 NV-1715-0710
P-3C Communication/Navigation Organizational Maintenance NV-1715-0533
P-3C Integrated Avionics Systems Navigation/Communication Systems Integrated Organizational Maintenance NV-1715-1680
P-3C Integrated Avionics Systems Update Navigation/Communication Systems Organizational Maintenance NV-1704-0351
P-3C Navigation/Communication Integrated Organizational Maintenance NV-1715-1678
P-3C Navigation/Communication Organizational Maintenance NV-1715-1577
Shore Communication Systems Maintenance NV-1715-1525
TACAMO Communication and Avionics System Operation NV-1715-1182
Trident Exterior Communication System High Frequency/Ultra High Frequency (HF/UHF) Subsystem Basic Maintenance NV-1715-1359
Trident Exterior Communication System, Level 1 NV-1715-1361
UH-1N Communication/Navigation Systems Organizational Maintenance NV-1704-0274

Communications
Advanced Communications Signals Analysis NV-1715-1875
AN/ACQ-2/2A Data Communications Systems and Associated Test Set Equipment Intermediate Maintenance NV-1715-0254

AN/ARC-101 VHF Communications System Intermediate Maintenance NV-1715-1015
AN/BSC-2 Data Link Communications System (DLCS) Equipment Combined Maintenance NV-1715-1469
AN/FSC-104(V) Standard Emergency Communications System, Class G1 NV-1715-1761
AN/SYQ-7(V)3 Naval Modular Automated Communications System NV-0505-0003
AN/SYQ-7(V)3 Naval Modular Automated Communications Systems (NAVMACS V3) NV-1715-1775
AN/SYQ-7(V)3 Naval Modular Automated Communications Systems NAVMACS V3 Maintenance NV-1715-0875
AN/SYQ-7(V)3 Naval Modulated Automated Communications System Operator NV-0505-0002
AN/SYQ-7(V)5 Naval Modular Automated Communications System (NAVMACS V5) Operator NV-1715-1595
AN/SYQ-7(V)5 Naval Modular Automated Communications System Operator NV-1715-1595
AN/SYQ-7(V)5 Naval Modular Automated Communications Systems (NAVMACS V5) Maintenance NV-1715-1781
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System, Automatic Data Processing (ADP) Communications Operator NV-1402-0102
AN/USM-467 Radar Communications Test Station Maintainer Intermediate Maintenance NV-1715-1418
AN/WSC-3 Communications Set, OE-82B/WSC-1 Antenna Group and AN/SRA-33 Antenna Coupler Group NV-1715-0876
AN/WSC-3 Satellite Communications Set and OE-82B/WSC-1(V) Antenna Group NV-1715-0876
Antisubmarine Communications Maintenance NV-1715-1533
Antisubmarine Warfare (ASW) Support Communications Maintenance Technician NV-1715-1175
Antisubmarine Warfare (ASW) Support Communications Operator NV-1715-1176
Combined Integrated Submarine Communications Antenna Subsystem Maintenance NV-1715-1451
Communications Maintenance, Class C NV-1715-1329
Communications Noncommissioned Officer (NCO) NV-1715-1845
Communications Quality Monitoring System NV-1715-1611
Communications Signals Collection and Processing NV-1715-1870
Communications Technical Controller NV-1715-1242
Communications Technician Administration Branch, Class A NV-1715-0400
Construction Electrician Power and Communications Cable Splicing NV-1714-0059
Cryptologic Technician Communications, Class A NV-1402-0199
Cryptologic Technician Communications—Communications Systems Operations, Control, and Management NV-1402-0065
DD-963 Class HF Communications Systems Maintenance NV-1715-1599
DD-963 Spruance Class Destroyer Radio Communications Systems Maintenance NV-1715-0870
E-2A Digital Data Communications System (AN/ASW-14A) Intermediate Maintenance NV-1715-0347
E-6A Airborne Communications Officer NV-1715-1822
E-6A Communications Operator NV-1715-1825
F/A-18 Communications, Navigation, Identification, and Countermeasures Organizational Maintenance NV-1715-1703
FFG-7 Class Ship Interior Communications (IC) Subsystems Technician NV-1715-1075
Flaghoist Outstation Communications Subsystem Maintenance NV-1715-1647
Fleet Satellite Communications Spectrum Monitor System Equipment NV-1715-1099
Flight Deck Communications Maintenance NV-1715-1601
High Frequency Surface Communications System Operator NV-1715-1348
Interior Communications Electrician Advanced Maintenance Training NV-1715-1296
Interior Communications Electrician, Class A NV-1714-0062
Interior Communications Electrician, Class A1 NV-1714-0062
Interior Communications Surface Ship Electrical Advanced NV-1715-1296
LHD Exterior Communications System Maintenance NV-1402-0214
Marine Air Traffic Control Communications Technician NV-1715-1773
Marine Air Traffic Control Communications Technician, Class C1 NV-1715-1441
Multiuser Special Intelligence Communications Maintenance NV-1402-0113
Naval Modular Automated Communications System (NAVMACS) A+ Maintenance NV-1715-0875
Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management NV-1715-1779
Navy Integrated Cryptologic Communications Systems NV-1402-0249
Outstation Communications System (Flaghoist) Maintenance NV-1715-1879
Radio Communications System Maintenance for DD-963 Class Ships, Class C1 NV-1715-0870
SH-3 Communications/Navigation Systems Organizational Maintenance NV-1715-1195
Shore Communications Maintenance Technician NV-1715-1709
Sonar Communications Set AN/WQC-2/2A Operation and Maintenance NV-1715-0166
Sonar Communications Set AN/WQC-2/2A Operation and Maintenance (Surface) NV-1715-0166
Special Communications Equipment Combined Maintenance NV-1715-1475
Submarine Communications Equipment Combined Maintenance NV-1715-1474
Submarine Communications Supervisor NV-1715-1554
Submarine Interior Communications Systems NV-1715-1549
Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator NV-1715-1778
Submarine Tactical Communications Equipment Combined Maintenance NV-1715-1477
TACAMO Communications System Maintenance NV-1715-1183
TACAMO UHF/HF Communications System Intermediate Maintenance NV-1715-1184
TACAMO VLF Communications and Verdin System Intermediate Maintenance NV-1715-1185
Tactical Communications for Naval Embarked Advisory Teams NV-1404-0013
Tactical Intelligence (TACINTEL) Communications Subsystem Maintenance NV-1715-1247
Tactical Support Center Communications Operator NV-1715-1814
Tactical Support Communications Maintenance Technician NV-1715-1533
Trident Exterior Communications Operator NV-1715-1808
Trident Exterior Communications Subsystem Advanced Maintenance, Level 3 NV-1715-1360
Trident Exterior Communications Subsystem Control Monitoring and Testing Subsystem Maintenance NV-1715-1354
Trident Exterior Communications Subsystem Level 1 Operator NV-1715-1808
Trident Exterior Communications Subsystem Support Subsystem Basic Maintenance NV-1715-1809

Trident Exterior Communications Subsystem Very Low Frequency/Low Frequency (VLF/LF) Subsystem Basic Maintenance NV-1715-1355
Trident Exterior Communications Subsystems Maintenance Technician NV-1715-1798
Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance NV-1715-1354
Trident Exterior Communications System (ECS) Antennas/Antenna Interface System NV-1715-1358
Trident Exterior Communications System (ECS) Data Switching Subsystem Basic Maintenance NV-1715-1356
Trident Exterior Communications System (ECS) Level 2 Basic Maintenance NV-1715-1353
Trident Exterior Communications System (ECS) Level 2 VLF/LF Subsystem NV-1715-1355
Trident Exterior Communications System (ECS) Support Subsystem Basic Maintenance NV-1715-1357
Trident Exterior Communications System (ECS), Level 2 HF/VHF NV-1715-1359
Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator NV-0505-0001
Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator NV-0505-0004
WDS Mk 14 Communications Tracking Set SYR-1 Maintenance Tartar NV-1715-1266

Comparator
CM-453/ALQ-99D(V) and CM-484/ALQ-99F(V) Signal Comparator-Converters Intermediate Maintenance NV-1715-1614
OQ-35A/ASM-347(V) Programmer Comparator Intermediate Maintenance NV-1715-1412

Compass
Gyro Compass Technician Mk 27 Maintenance, Class C1 NV-1715-1089

Compensator
AN/ASA-65(V) Magnetic Compensator Group Intermediate Maintenance NV-1715-1564

Compiler
Computer Programming AN/UYK-7 CMS-2(Y) Compiler Language Basic NV-1402-0163

Component
Oxygen System Component Test Stand/Oxygen Regulator Repair NV-1704-0436

Components
Integrated Circuit Components (Microelectronics) Intermediate Maintenance NV-1715-1022
P-3, C-130, C-2 Electrical Components Intermediate Maintenance NV-1715-1666

Composite
Advanced Composite Materials Maintenance NV-1710-0140

Compressed
Air Compressor and Compressed Air System Component Maintenance NV-1601-0029

Compression
Vapor Compression Distiller Maintenance and Operation NV-1601-0028

Compressor
Air Compressor and Compressed Air System Component Maintenance NV-1601-0029
AN/AAS-33A Detecting and Ranging Set Receiver Group/Reciprocating Compressor/Infrared Indicator Intermediate Maintenance Course NV-1715-1411
CV/CVN (Class) Air Compressor NV-1710-0020
I/R High Pressure Air Compressor Combined Maintenance NV-1601-0030
P-3 Engine Driven Compressor Intermediate Maintenance NV-1704-0378
Trident High Pressure and Low Pressure Air Compressor and Dehydrator Advanced Maintenance NV-1704-0428

Computer
Advanced Avionics Integrated Computer System Maintenance, Class C7 NV-1715-1753
Aegis Computer AN/UYK-43 Operation and Maintenance (CG-65-73/DDG) NV-1715-1752
Aegis Computer AN/UYK-7 Operation and Maintenance (CG-47-64) NV-1402-0121
AN/AQA-7(V) 1, 2 and 3 Sonar Computer Recorder Group and AN/ASA-76 Generator-Transmitter Group Intermediate Maintenance NV-1715-0774
AN/AQA-7(V)4 and AN/AQA-7(V)5 Sonar Computer Recorder Group Difference Data Intermediate Maintenance NV-1715-1017
AN/AQA-7(V)6/7 Sonar Computer Recorder Group Difference Data Intermediate Maintenance NV-1715-0567
AN/AQA-7A(V)10, 11, 12 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance NV-1715-1567
AN/AQA-7A(V)8 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance NV-1715-1566
AN/AQM-18(V)1 Thru (V)5 Sonar Computer Recorder Group Test Central and AN/AQM-20 Computer Group Power Systems Test Set Intermediate Maintenance NV-1715-0539
AN/ASM-607(V) (Series) Computer Memory Loader-Verifier Test Set Intermediate Maintenance NV-1402-0202
AN/ASN-39/39A and AN/ASN-41 Navigational Computer Systems Intermediate Maintenance NV-1715-1204
AN/AYK-2 Navigation Computer Group and OA-1768A Plotter Board Group Intermediate Maintenance NV-1715-0227
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System Maintenance NV-1402-0103
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System, Automatic Data Processing (ADP) Communications Operator NV-1402-0102
AN/UYK-7 Computer Diagnostic Maintenance NV-1715-1226
AN/UYK-7 DD-963 Computer/Peripheral Technician NV-1715-1261
AN/UYK-7 Digital Computer Maintenance NV-1715-1262
AN/UYK-7 FFG-7/36/61 Class Ship Computer/Peripheral Maintenance NV-1402-0216
ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance NV-1715-0111
Central Navigation Computer (CNC) (Input/Output) NV-1402-0026
Central Navigation Computer (CNC) Technician NV-1715-1402
Central Navigation Computer (CNC) Technician Replacement NV-1715-1392
CG/CGN/DDG CDS Upgrade AN/UYK-43 Computer/Peripheral Maintenance NV-1402-0223
CG/GGN Combat Direction System Upgrade AN/UYK-43 Computer/Peripheral Maintenance Technician NV-1402-0223
Computer CP-890 A&B/UYK Processor Maintenance 1 NV-1402-0141
Computer CP-890A B/UYK Input/Output Controller Maintenance NV-1402-0234
Computer CP-890A B/UYK Processor Maintenance NV-1402-0235
Computer CP-890A, B/UYK Input/Output Controller Maintenance NV-1402-0079
Computer Detector (CP-413/ASA-27) Intermediate Maintenance NV-1715-0111
Computer DP-890A and B/UYK Processor Maintenance 2 NV-1402-0080
Computer Intermediate Level Maintenance NV-1715-1402
Computer Numerically Controlled Machinery, Class C NV-1723-0025
Computer Programming AN/UYK-20 Assembler Language Basic NV-1402-0096

Computer Programming AN/UYK-7 Assembler Language—Basic NV-1402-0095
Computer Programming AN/UYK-7 CMS-2(Y) Compiler Language Basic NV-1402-0163
Computer/Microprocessor Fundamentals NV-1402-0116
CP-789(V)/UYK Computer NV-1715-1044
CU-1768A Computer Data Coupler and CP-926A Digital Data Computer Intermediate Maintenance NV-1715-0954
CV-3650/AYA-6C Computer Interface Unit (CIU) Intermediate Maintenance NV-1715-1619
CV/CVN Combat Direction System (ASWM) Computer/Peripheral Subsystem Maintenance NV-1402-0220
DD-963 Class Ship's Computer/Peripheral Subsystem Maintenance NV-1402-0215
DD-963 Computer/Peripheral Subsystem Maintenance NV-1402-0215
Digital Computer Microprocessor Basics NV-1402-0097
Digital Control Computer Missile Interface FCS Mk 88 Mod 1 NV-1402-0147
Digital Control Computer Peripheral Equipment Advanced Maintenance Fire Control System Mk 88 Mod 1 NV-1402-0143
E-2A Computer Indicator Semi-Automatic Checkout Equipment (SACE) Operation and Maintenance NV-1715-0318
Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion NV-1715-1131
FC-1114 Combat System Computer System Maintenance Technician NV-1402-0121
FFG-7/36/61 Class Ships Computer/Peripheral Subsystem Maintenance NV-1402-0216
Fire Control System (FCS) Mk 113 Mods 6/8 Mk 130 Digital Computer Maintenance NV-1715-1007
Fire Control System (FCS) Mk 88 Mod 1 Digital Control Computer NV-1715-0353
Fleet Ballistic Missile Tender Navigation Maintenance Computer NV-1715-1402
LHD Computer and Peripheral Equipment Maintenance NV-1402-0224
Mardan Computer Theory and Maintenance 2 NV-1715-0448
Mardan Computer Theory and Maintenance I NV-1715-0447
Marine Aviation Logistics Computer Operator NV-1402-0174
Mk 152 Digital Computer NV-1715-1408
Mk 1A Computer Operation and Maintenance NV-1402-0164
Mk 47 Computer Operational Maintenance NV-1715-1536
OA-3732/ASM-76 Computer Indicator Intermediate Maintenance NV-1715-0318
Ocean Surveillance Information System (OSIS) Baseline Upgrade Computer User NV-1402-0117
Religious Program Specialist, Class C (Computer Applications) NV-1402-0175
S-3A Computer System Specialist Organizational Maintenance NV-1715-1194
SSN Central Computer Complex (CCC) Maintenance Software NV-1402-0098
Terrier Mk 152 Computer Complex NV-1715-1382
Trident 1 Central Navigation Computer (CNC) Equipment Replacement NV-1715-1373
Trident Central Navigation Computer Technician Replacement NV-1715-1381

Conditioning
110 Ton R11 Centrifugal Air Conditioning Unit (York) NV-1701-0004
Air Conditioning and Refrigeration Operation and Maintenance NV-1701-0005
Air Conditioning and Refrigeration, Class C NV-1701-0005
Air Conditioning and Refrigeration, Class C1 NV-1701-0005
Aviation Support Equipment Mobile Air Conditioning Intermediate Maintenance NV-1701-0008
Centrifugal Air Conditioning System Operation and Maintenance NV-1701-0013
Lithium Bromide Air Conditioning NV-1701-0002
Lithium Bromide Air Conditioning Plant Operator NV-1701-0002
P-3C Air Conditioning, Pressurization, and Utility Systems Organizational Maintenance NV-1701-0015
R-11 Centrifugal 110 Ton Air Conditioning Combined Maintenance NV-1701-0004
R-114 Air Conditioning System York 150 Ton NV-1701-0009
R-114 York 200 Ton Air Conditioning Technician NV-1701-0012
Refrigeration and Air Conditioning Systems Technicians NV-1701-0019

Connector
A-6/EA Electrical Connector/Wire Bundle Repair NV-1714-0065
AV-8B Aircraft Wire/Connector and Fiber Optics Repair/Assembly Organizational Maintenance NV-1715-1728
E-6A Aircraft Wiring and Connector Repair Organizational/Maintenance NV-1714-0082
F-14 Aircraft Electrical Connector/Wire Repair Organizational Maintenance NV-1714-0067
P-3C Connector and Wire Repair Organizational Maintenance NV-1714-0061

Console
AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance NV-1715-0956
AN/ALM-163 Digital Module Test Console Intermediate Maintenance NV-1715-0936
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance NV-1715-1419
AN/ASM-459 Mini-SACE Flight System Test Console Intermediate Maintenance NV-1715-0948 NV-1715-1734
ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance NV-1715-0111
Bailey Automatic Boiler Control Console Operator NV-1710-0085
Console Operator Training NV-1710-0141
Cryptologic Combat Support Console Maintenance NV-1402-0194
Cryptologic Combat Support Console/Cryptologic Combat Support Operations Division Officer NV-1404-0014
Cryptologic Combat Support System/Console (CCSS/SC) NV-1402-0189
Damage Control/Fuel Control Console Operator NV-1710-0100
Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase I NV-1402-0127
Display Console OJ-326(V)/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase III NV-1402-0128
Display Console OJ-326(V)/UYK and Digital Display Indicator IR-1181/UYK Maintenance Phase II NV-1402-0126
FFG-7 Electrical Plant Control Console Operator Electrical Maintenance NV-1714-0039
FFG-7 Electrical Plant Control Console Operator Mechanical Maintenance NV-1714-0040
General Regulator Automatic Boiler Control (ABC) Console Operator NV-1710-0157
General Regulator Automatic Boiler Control Console Operator NV-1710-0079
Hagan Automatic Boiler Control (ABC) Console Operator NV-1710-0160
Hagan Automatic Boiler Control Console (ACC) Operator NV-1710-0078

- Machinery Systems Console Maintenance NV-1402-0115
- Navigation Control Console Mk 3 Mod 1/2 Maintenance NV-1715-1367
- Navigation Control Console Mk 3 Mod 2 Maintenance NV-1715-1367
- OJ-615/ALM Countermeasures Test Console Intermediate Maintenance NV-1715-1421
- Operations Summary Console Difference Maintenance NV-1715-1034
- Subassembly Test Console (SATC) Intermediate Maintenance NV-1715-0956
- Weapon Direction System (WDS) Mk 14 Terrier Console Operator NV-1715-1239

Consoles
- Gun Fire Control System Mk 86 Consoles and Data Group Equipment Maintenance NV-1402-0106

Consolidated
- AN/BQQ-5E (V4) Consolidated Maintenance Conversion NV-1715-1843
- EA-6B Electrical and Instrument Systems Consolidated Organizational Maintenance NV-1704-0358
- EA-6B Integrated Electronic Countermeasures System Consolidated Organizational Maintenance NV-1715-1613
- F/A-18 Aviation Hydraulic/Structure Mechanic Consolidated Organizational Maintenance NV-1704-0386
- F/A-18 Combined Electronics Systems Consolidated Organizational Maintenance NV-1704-0384
- Trident Sonar Technician Submarine (STS) Consolidated Maintenance NV-1715-1811

Construction
- Advanced Construction Electrician NV-1714-0058
- Construction Electrician Power and Communications Cable Splicing NV-1714-0059
- Construction Electrician, Class A NV-1714-0055
- Construction Electrician, Class C1 Advanced NV-1714-0058
- Construction Inspector NV-1408-0035
- Construction Mechanic Repair Parts Storeman NV-1405-0024
- Construction Mechanic, Class A NV-1710-0117
- Construction Mechanic, Class C-1 Advanced NV-1710-0119
- Construction Planner and Estimator NV-1408-0034
- Construction Planning and Estimating Specialist NV-1408-0034
- Light Frame Construction NV-1710-0163
- Masonry Unit Construction 2 NV-1710-0166
- Salvage/Construction Demolition Diver NV-1710-0169

Container
- Cargo Offload and Discharge System/Container Offloading and Transfer Systems (COLD/COTS) NV-1731-0004

Control
- Air Intercept Control Supervisor NV-2202-0126
- AN/AAS-33A Electronic Control Amplifier Intermediate Maintenance NV-1715-1620
- AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance NV-1715-0052
- AN/BQQ-6 Group A Primary Power Control (PCC)/SSDC Advanced Maintenance NV-1715-1317
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- Antisubmarine Warfare Operations Center (ASWOC) Operations Control Operator NV-2202-0122
- Application of Static Control Devices NV-1715-1449
- Bailey Automatic Boiler Control Console Operator NV-1710-0085
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- Combat Control System (CCS) Mk 1 Mod 0 Combined Maintenance NV-1715-1552
- Combat Control System (CCS) Mk 1 Mod 1 Combined Maintenance NV-1402-0169
- Combat Control System (CCS) Mk 1 Mod 2 Combined Maintenance NV-1402-0170
- Command and Control Processor Subsystem Operator NV-1402-0236
- Command and Control System (CCS) Advanced Level 3 NV-1402-0134
- Command and Control System Ashore Maintenance Technician NV-1402-0246
- Command and Control System Ashore Manager NV-1402-0245
- Command Control Systems Ashore Display Operator NV-1402-0237
- Command Control Systems Ashore System Manager NV-1402-0239
- Cryptologic Technician Communications—Communications Systems Operations, Control, and Management NV-1402-0065
- Damage Control Assistant NV-1710-0092, NV-1728-0011
- Damage Control/Fuel Control Console Operator NV-1710-0100
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- Hagan Automatic Boiler Control (ABC) Maintenance NV-1710-0156
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- Harpoon Ship Command Launch Control Set Maintenance NV-1715-1063
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Mine Hunter Coastal Machinery/Ship Control System Operators
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NV-1402-0083
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NV-1402-0226
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NV-1402-0226
Mk 86 Mod 9 Class C Gun Fire Control System Maintainer/Operator
NV-1715-1859
Naval Command Control System Ashore Maintenance Technician
NV-1715-1815
Naval Control of Shipping
NV-2202-0162
Naval Control of Shipping Advanced
NV-2202-0164
Navigation Control Console Mk 3 Mod 1/2 Maintenance
NV-1715-1367
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NV-1715-1367
OA-9008 Magnetic Tape Control Unit and Magnetic Tape Transport
NV-1715-1033
S-3A Armament Control and Delivery System Organizational Maintenance
NV-2202-0111
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Senior Enlisted Damage Control
NV-1728-0023
Ship Control System Maintenance
NV-1715-1308
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NV-1715-0232
Shore Fire Control Party Training Path System
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SSN/SSBN Electronic Hovering and Depth Control Combined Maintenance
NV-1715-0934
Static Control Device Theory
NV-1715-1468
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NV-1715-1312
Submarine Electrical Control and Distribution Equipment Combined Maintenance
NV-1714-0054
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NV-1402-0162
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NV-1715-1362
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NV-1715-1805
Trident Command and Control System (CCS) Electronics Technician Conversion
NV-1715-1364
Trident Command and Control System Level 1
NV-1402-0135
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NV-1715-1354
Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance
NV-1715-1354
Trident Ship Control and Atmosphere Support Technician Level 1
NV-1715-1309
Trident Ship Control and Atmosphere Support Technician Level 2
NV-1715-1172
Trident Ship Control and Atmosphere Support Technician Level 3
NV-1715-1173
Trident Ship's Control Level 2
NV-1715-1172
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NV-1715-1173
Vertical Launch Tomahawk Weapon Control System Operator
NV-2202-0160

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KAMEWA Controllable Pitch Propeller Maintenance
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NV-1715-1542
Air Intercept Controller Intermediate
NV-1704-0340
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification
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Air Intercept Controller Supervisor Qualification, Class C1
NV-1704-0339
Air Intercept Controller, Conventional Qualification
NV-2202-0131
Air Traffic Controller
NV-1704-0004
Air Traffic Controller, Class A
NV-1704-0004
Air Traffic Controller, Class A1
NV-1704-0004
AN/SPA-25 Series Radar Indicator, C-11300/SPA-25E Off-Centering Controller and SB-15005C/SP Switchboard Maintenance
NV-1715-1586
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NV-1715-1849
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NV-1715-1242
Computer CP-890A, B/UYK Input/Output Controller Maintenance
NV-1402-0079
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NV-1715-1415
Three Winch Controller Using Standard Electronic Modules (SEM) and Controls for Logic Elevators
NV-1710-0111

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NV-1715-1803
NV-1715-1841
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NV-1715-0898
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Damage Controlman, Class A School
NV-1728-0009
Fire Controlman
NV-1715-0155
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NV-1715-1713
Fire Controlman, Class A, School Strand
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Denison Electrical and Electronics Control Maintenance and Controls for Logic Elevators
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P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance
NV-1704-0380
Steam Plant Automatic Controls Maintenance (Bailey Meter)
NV-1710-0074
Steam Plant Automatic Controls Maintenance (General Regulator)
NV-1710-0072
Steam Plant Automatic Controls Maintenance (Hagan)
NV-1710-0073
Three Winch Controller Using Standard Electronic Modules (SEM) and Controls for Logic Elevators
NV-1710-0111

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NV-1715-1837
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NV-1715-1545
AN/BSY-1 Acoustic Combined Basic Maintenance Conversion
NV-1715-1548
Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion
NV-1715-1131
Trident (ECS) Electronics Command and Control System Technician Conversion
NV-1715-1362
Trident 2 Fire Control Technician To Missile Technician Conversion
NV-1715-1835
Trident 2 Missile Technician Conversion
NV-1715-1834

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Trident Command and Control System (CCS) Electronics Technician Conversion NV-1715-1364
Trident Common Navigation Technician Conversion NV-1715-1797

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CV-2036 Analog Digital Converter (KCMX) Maintenance NV-1715-1045
DD-963 60/400 Hertz Frequency Converter (Air Cooled) Maintenance NV-1715-1710
DD-963 60/400 Hertz Frequency Converter (Air Cooled) System Maintenance NV-1715-1710
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Deep Sea Diving Independent Duty Corpsman, Class C NV-0702-0013
Hospital Corpsman NV-0703-0008
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Submarine Force Independent Duty Corpsman, Class C NV-0709-0021
Surface Force Independent Duty Corpsman, Class C NV-0709-0019

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Correctional Specialist NV-1728-0035
Navy Correctional Counselors NV-0799-0009

Corrections
Corrections Specialist NV-1728-0035

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Air Navigation by Correspondence NV-1606-0071
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  FFG-7 Replacement Crew Training NV-1715-1231

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  Cryptologic Combat Support Console Maintenance NV-1402-0194
  Cryptologic Combat Support Console/Cryptologic Combat Support Operations Division Officer NV-1404-0014
  Cryptologic Combat Support Division Chief NV-1402-0187
  Cryptologic Combat Support Systems Maintenance NV-1715-1645
  Cryptologic Combat Systems Operator NV-1402-0188
  Cryptologic Maintenance Technician AN/WLQ-4(V) Subsystem Maintenance Pipeline NV-1715-1446
  Cryptologic Outboard Division Officer NV-1405-0031
  Cryptologic Systems Programmer/Manager NV-1402-0180
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  Cryptologic Technician (Technical) ELINT Operator NV-1402-0066
  Cryptologic Technician (Technical), Class A NV-1715-1642
  Cryptologic Technician A (Administration), Class A NV-1715-0400
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  Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) Common Core Maintenance NV-1402-0177
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  Cryptologic Technician M, Universal Cryptologic Processor Maintenance NV-1402-0069
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  CU-1768A Computer Data Coupler and CP-926A Digital Data Computer Intermediate Maintenance NV-1715-0954

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  CU-2070/ARC Automatic Antenna Coupler Intermediate Maintenance NV-1715-1020

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CV-2036
CV-2036 Analog Digital Converter (KCMX) Maintenance NV-1715-1045

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Cytotechnologist
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Cytotechnology
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Damage
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Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst NV-1402-0230
Naval Aviation Logistics Data Analysis (NALDA) NV-1402-0154
Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management NV-1715-1779
Navy Tactical Command System Afloat Integrated Data Base Analyst NV-1402-0204
Radio Navigation Set AN/BRN-3B Data Processor Maintenance NV-1402-0142
Trident Exterior Communications System (ECS) Data Switching Subsystem Basic Maintenance NV-1715-1356
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NV-1715-1238
Carrier Antisubmarine Warfare (ASW) Module 4.2 Automated Data Processing Operator
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Data Processing Technician, Class A1
NV-1402-0173
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P-3C Integrated Avionics System Data Processing Systems 1 and 2 Integrated Organizational Maintenance
NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems 1 and 2 Organizational Maintenance
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NV-1715-1683
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Integrated Organizational Maintenance
NV-1715-1672
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NV-1715-1672
Tactical Support Center Data Processing Technician
NV-1715-1238
Target Data Processing (TDP) Maintenance, Class C
NV-1402-0129
Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance
NV-1715-1354

Data System
CV Naval Tactical Data System Input Basic
NV-1715-1236
DD-963 Naval Tactical Data System (NTDS) Data Utilization
NV-1402-0023
DD-963 Naval Tactical Data System (NTDS) Data Utilization, Class C2
NV-1402-0023
Naval Tactical Data System (NTDS) (Data Utilization)
NV-1402-0023
Naval Tactical Data System Input
NV-1715-1235

Data Systems
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification
NV-1715-1542
Antisubmarine Warfare (ASW) Module Data Systems Technician
NV-1402-0091
Antisubmarine Warfare (ASW) Operations Center Data Systems Technician
NV-1402-0157
CV Naval Tactical Data Systems (NTDS) Data Utilization
NV-2202-0114
Data Systems Technician, Class A
NV-1715-1263
Data Systems Technician, Class C
NV-1715-1085
Force High Level Terminal Data Systems Maintenance Technician
NV-1715-1177

DD-963
AN/UYK-7 DD-963 Computer/Peripheral Technician
NV-1715-1261
DD-963 60/400 Hertz Frequency Converter (Air Cooled) Maintenance
NV-1715-1710
DD-963 60/400 Hertz Frequency Converter (Air Cooled) System Maintenance
NV-1715-1710
DD-963 Auxiliary Systems Technician
NV-1704-0265
DD-963 Class HF Communications Systems Maintenance
NV-1715-1599
DD-963 Class Ship's Computer/Peripheral Subsystem Maintenance
NV-1402-0215
DD-963 Combat System Maintenance Management
NV-1715-1046
DD-963 Computer/Peripheral Subsystem Maintenance
NV-1402-0215
DD-963 Data Display Subsystem Maintenance
NV-1715-1744
DD-963 Engineering Department Division Officer
NV-1704-0267
DD-963 Facilities Control Quality Monitoring Operator
NV-1715-1596
DD-963 Main Propulsion Assistant
NV-1704-0267
DD-963 Naval Tactical Data System (NTDS) Data Utilization
NV-1402-0023
DD-963 Naval Tactical Data System (NTDS) Data Utilization, Class C2
NV-1402-0023
DD-963 Naval Tactical Data Systems (NTDS) Data Input
NV-1402-0010
DD-963 PCO/PXO Gas Turbine Engineering
NV-1601-0024
DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator
NV-1601-0025
DD-963 Spruance Class Destroyer Radio Communications Systems Maintenance
NV-1715-0870
FFG-7/DD-963 60/40 Hertz Static Frequency Converter Maintenance
NV-1714-0029
Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47
NV-1715-1716
Gas Turbine Electrical Phase II, Class C, DD-963 Strand
NV-1715-1716
Gas Turbine System Technician Advanced Operator (DD-963/DDG-993/CG-47)
NV-1710-0142
Radio Communications System Maintenance for DD-963 Class Ships, Class C1
NV-1715-0870
SSM Automatic Degaussing Equipment Maintenance for the DD-963
NV-1601-0017
SSM Automatic Degaussing System Maintenance for DD-963 Class
NV-1714-0085
SSM Degaussing System for DD-963 Class Destroyer, Class C1
NV-1601-0017
Tomahawk Weapons System DD-963 Class Armored Box Launcher Configuration Operation and Maintenance
NV-1402-0160

DDG-51
Gas Turbine System Operator (DDG-51)
NV-1710-0141

DDG-993
CGN-38/DDG-993 (SM-2) Combat Systems Operator
NV-2202-0119
FFG-7/DDG-993 60/400 Hertz Frequency Converter (Water-Cooled) System Maintenance
NV-1714-0086
Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47
NV-1715-1716

Decision
National Security Decision Making for College of Naval Command and Staff
NV-1511-0015
National Security Decision Making for College of Naval Warfare and Naval Command College
NV-1511-0014
National Security Decision Making Nonresident Seminar
NV-1511-0026
Naval War College Correspondence Course in National Security Decision Making
NV-1511-0010

Deck
E-6A Flight Deck Avionics Systems Organizational Maintenance
NV-1715-1826
Flight Deck Communications Maintenance
NV-1715-1601
Officer of the Deck-Basic
NV-1722-0008
Prospective Officer of the Deck
NV-1722-0008

Decoder
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance
NV-1715-0797

Defense
AN/WSC-3 UHF Defense Assigned Multiple Access (DAMA) Communication Set Maintenance
NV-1715-1776
Basic Point Defense Surface Missile System
NV-1715-0778

Defensive
Advanced Defensive Weapons Subsystem Command Subsystem Operator
NV-1402-0125
Trident Defensive Weapons Ordnance Subsystem and Maintenance
NV-1704-0427

Trident Defensive Weapons Subsystem/Command Subsystem (DWS/CS) Level 1
NV-1402-0123
Trident Defensive Weapons Subsystem/Command Subsystem Level 2
NV-1402-0087
Trident Defensive Weapons Subsystem/Command Subsystem Level 3
NV-1402-0088

Degaussing
FFG-7 Class Degaussing System Maintenance
NV-1601-0026
FFG-7/MCD-1 Automatic Degaussing System Maintenance
NV-1714-0084
SSM Automatic Degaussing Equipment Maintenance for the DD-963
NV-1601-0017
SSM Automatic Degaussing System Maintenance for DD-963 Class
NV-1714-0085
SSM Degaussing System for DD-963 Class Destroyer, Class C1
NV-1601-0017

Delivery
S-3A Armament Control and Delivery System Organizational Maintenance
NV-2202-0111
SEAL Delivery Vehicle Electronic Maintenance
NV-1715-1560

Demolition
Basic Underwater Demolition/SEAL Training
NV-0804-0001
Salvage/Construction Demolition Diver
NV-1710-0169

Dental
Dental Administrative Technician, Class C
NV-0701-0013
Dental Assistant Basic, Class A
NV-0701-0012
Dental Equipment Repair Technology, Class C
NV-1715-1511
Dental Laboratory Technician, Maxillofacial, Class C
NV-0701-0008
Dental Laboratory Technology Advanced, Class C
NV-0701-0011
Dental Laboratory Technology Basic, Class C
NV-0701-0010

Depth
Electronic Hovering and Depth Control Combined Maintenance
NV-1715-0934
Independent Variable-Depth Sonar Hoist AN/SQA-13(V) Maintenance
NV-1715-1285
SSN/SSBN Electronic Hovering and Depth Control Combined Maintenance
NV-1715-0934

Dermatology
Dermatology Technician, Class C
NV-0709-0017

Destroyer
DD-963 Spruance Class Destroyer Radio Communications Systems Maintenance
NV-1715-0870
SSM Degaussing System for DD-963 Class Destroyer, Class C1
NV-1601-0017

Detecting
AN/AAS-33A Detecting and Ranging Set Receiver Group/Reciprocating Compressor/Infrared Indicator Intermediate Maintenance Course
NV-1715-1411
AN/APR-39(V)1 Radar Signal Detecting Intermediate Maintenance
NV-1715-1731
AN/ASQ-10A Magnetic Anomaly Detecting Systems Intermediate Maintenance
NV-1715-0178
AN/AVR-2 Laser Detecting Set (LDS) Intermediate Level Maintenance
NV-1303-0003
P-3 AN/ASQ-10A Magnetic Anomaly Detecting Systems Maintenance, No. 42
NV-1715-0178
Sonar Detecting-Ranging Sets AN/BQQ-5 Advanced Maintenance Revision A
NV-1715-1281
Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Advanced Maintenance
NV-1715-1281
Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Basic Maintenance
NV-1715-1271

Detection
AN/AAS-36 Infrared Detection System Intermediate Maintenance
NV-1715-1580
AN/ASQ-81(V) Magnetic Anomaly Detection Set Intermediate Maintenance
NV-1715-0559
NV-1715-1581
AN/BQQ-6 Sonar Set Detection Tracking
NV-1715-1319
E-2C Passive Detection System (PDS) AN/ALR-73 Organizational Maintenance
NV-1715-1519
Radiation Detection Indication, and Computation (RADIAC) Equipment Calibration and Repair
NV-1715-1860

Detector
AN/ASQ-10 Magnetic Anomaly Detector Intermediate Maintenance
NV-1715-0178
ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance
NV-1715-0111
Computer Detector (CP-413/ASA-27) Intermediate Maintenance
NV-1715-0111

Detroit
Aviation Support Equipment Detroit Series 53 Diesel Intermediate Maintenance
NV-1712-0021
Aviation Support Equipment UD-282 and Detroit Series 53 Diesel Engines Intermediate Maintenance
NV-1712-0021

Development
Equipment Operator Water Well Drilling and Development
NV-1601-0032
Leader Development NAVLEAD Instructor
NV-1717-0024
Leader Development Program (NAVLEAD) for Leading Petty Officers
NV-1717-0025
Navy Leader Development Program (NAVLEAD) for Chief Petty Officers
NV-1717-0023
Training Materials Development System (TMDS) Curriculum Developer
NV-1406-0022

Device
Magnetic Tape Input/Output Device MX-7988A,B UYK Maintenance
NV-1715-1454
Static Control Device Theory
NV-1715-1468

Devices
Application of Static Control Devices
NV-1715-1449
Basic Solid State Devices, Class F1
NV-1715-1088
Electrical Control Devices
NV-1714-0050

Dewey
Dewey U/W Log Combined Maintenance
NV-1715-1012
Dewey Underwater Log Combined Maintenance
NV-1715-1012
Dewey Underwater Log Maintenance, Class C1
NV-1715-1042

Diagnostic
AN/UYK-7 Computer Diagnostic Maintenance
NV-1715-1226

Dial
Telephone Dial-X System Combined Maintenance
NV-1715-1009

Diesel
Aviation Support Equipment Detroit Series 53 Diesel Intermediate Maintenance
NV-1712-0021
Aviation Support Equipment Diesel Engine Driven Fork Lift Trucks Intermediate Maintenance
NV-1710-0136
Aviation Support Equipment UD-282 and Detroit Series 53 Diesel Engines Intermediate Maintenance
NV-1712-0021
Diesel Engine Inspector Training and Certification
NV-1712-0041
Diesel Engine, Class C Core
NV-1712-0032
Diesel Engine, Class C Module 4
NV-1712-0033
Diesel Engine, Class C, Module 1
NV-1712-0038
Diesel Engine, Class C, Module 2
NV-1712-0039
Diesel Engine, Class C, Module 3
NV-1712-0040
Diesel Engine/Fairbanks-Morse Maintenance Technician
NV-1712-0002
Diesel Engine/Waste Heat FFG-7
NV-1712-0037
Fairbanks-Morse 38F 5 1/4 Diesel Maintenance Technician
NV-1712-0031
FFG-7 Auxiliary 16V149TI Diesel Engine Maintenance
NV-1712-0027

Introduction to Diesel Engines and Associated Systems NV-1703-0005
Master Marine Diesel Mechanic Maintenance NV-1712-0026
Mine Warfare Packard Diesel Engineman, Class C NV-1712-0012
Trident Diesel Engine Supervisor NV-1712-0029
Trident Submarine Diesel Engine Maintenance NV-1712-0028
Waukesha Diesel Engine NV-1712-0001

DIFAR
P-3A/B (DIFAR) Weapons Systems Technician Organizational Maintenance NV-1715-1024

Difference
AN/SPS-48C Radar Difference NV-1715-1059
AN/SSQ-29 Data Terminal Set Maintenance-Difference NV-1715-1052
Operations Summary Console Difference Maintenance NV-1715-1034

Digital
Advanced Digital NV-1715-1792
Advanced Digital Theory NV-1715-1500
AN/ALM-117 Digital Test Station Operator NV-1715-0943
AN/ALM-163 Digital Module Test Console Intermediate Maintenance NV-1715-0936
AN/ASN-123 Digital Display Group (DDG) Intermediate Maintenance NV-1715-1616
AN/BQQ-6 Group A Multipurpose Interface Unit Digital Spectrum Analyzer Advanced Maintenance NV-1715-1318
AN/USQ-64(V) Common User Digital Information Exchange System (CUDIXS) Maintenance NV-1715-0872
AN/UYK-7 Digital Computer Maintenance NV-1715-1262
Analog-to-Digital Converter Mk 65 Mods 1 and 2 Maintenance NV-1715-1452
ASM-144 On Board Memory Tester Digital Volt Ohmmeter Intermediate Maintenance NV-1715-1210
Common User Digital Information Exchange System (CUDIXS) Maintenance NV-1715-0872
CU-1768A Computer Data Coupler and CP-926A Digital Data Computer Intermediate Maintenance NV-1715-0954
CV-2036 Analog Digital Converter (KCMX) Maintenance NV-1715-1045
Digital and Electronics Training NV-1715-0050 NV-1715-1850
Digital Combat Systems Common Core NV-1402-0148
Digital Computer Microprocessor Basics NV-1402-0097
Digital Control Computer Missile Interface FCS Mk 88 Mod 1 NV-1402-0147
Digital Control Computer Peripheral Equipment Advanced Maintenance Fire Control System Mk 88 Mod 1 NV-1402-0143
Digital Fundamentals NV-1402-0057
Digital Training NV-1402-0072
Digital-to-Digital Converter CV-2342 B/UYK Maintenance NV-1402-0138
Digital-to-Digital Converter CV-2342/UYK Maintenance NV-1402-0146
Digital/Microprocessor Basics NV-1715-1557
Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase I NV-1402-0127
Display Console OJ-326(V)/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase III NV-1402-0128
Display Console OJ-326(V)/UYK and Digital Display Indicator IR-1181/UYK Maintenance Phase II NV-1402-0126
E-2A Digital Data Communications System (AN/ASW-14A) Intermediate Maintenance NV-1715-0347
Fire Control System (FCS) Mk 113 Mods 6/8 Mk 130 Digital Computer Maintenance NV-1715-1007
Fire Control System (FCS) Mk 88 Mod 1 Digital Control Computer NV-1715-0353
Fleet Digital NV-1715-1657
IP-933 Video Display and CV-2434 Analog-Digital Converter Intermediate Maintenance NV-1715-1626
Mk 113 Mod 10 Digital Display Subsystem NV-1715-1013
Mk 152 Digital Computer NV-1715-1408
Mk 68 Mod 19 Digital Upgrade (DU) Gun Fire Control System (GFCS) Maintenance NV-1715-1708
OJ-510/ALM Digital Test Bench Intermediate Maintenance NV-1715-1622
Solid State Theory and Digital Electronics NV-1715-0103
Submarine Digital Teletype Combined Maintenance NV-1404-0011
Tartar Radar AN/SPG-51C Digital NV-1715-0512
Terrier Weapons Systems with Digital Fire Control Systems (MFCS Mk 76-6/AFCS) NV-1715-0658
TSEC/KY-65A/75A AN/USC-43 Advanced Narrowband Digital Voice Terminal Limited Maintenance NV-1715-1342

Dimension
AN/WTC-3(V) AT&T Dimension 2000 PBX Telephone System, Class C1 NV-1715-1604

Dimensional
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems Phases B/D NV-1715-1495
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems, Phases B/D NV-1715-1495
Physical Dimensional Measurement and Calibration NV-1606-0082
Precision Physical and Dimensional Measurement NV-1606-0082

Direction
AN/ALD-2B Direction Finder System Intermediate Maintenance NV-1715-1030
AN/SYR-1 Weapons Direction System (WDS) Mk 14 Maintenance NV-1402-0062
CG/CGN Combat Direction System Upgrade OJ-194A(V)3UYA-4(V) Display Maintenance Technician NV-1402-0222
CG/GGN Combat Direction System Upgrade AN/UYK-43 Computer/Peripheral Maintenance Technician NV-1402-0223
CG/GGN/DD-993 Combat Direction System Upgrade OJ-194A(V)3/UYA-4(V) Display Maintenance Technician NV-1402-0222
Combat Direction Finding Maintenance NV-1715-1874
Combat Direction Finding Operator NV-1715-1868
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
CV/CVN Combat Direction Center Operator NV-1402-0238
CV/CVN Combat Direction System (ASWM) Computer/Peripheral Subsystem Maintenance NV-1402-0220
CV/CVN/LHD Combat Direction System AN/UYQ-21 Display Maintenance Technician NV-1402-0221
Electronic Surveillance Measures (ESM) AN/BLD-1 Direction Finding Set Combined Maintenance NV-1715-1553
High Frequency Direction Finding (HFDF) Hardware Maintenance NV-1715-1256
High Frequency Direction Finding (HFDF) Maintenance NV-1715-1256
Outboard Maintenance Direction Finding (DF) Technician NV-1715-1241
Radio Direction Finder AN/BRD-6 Combined Maintenance NV-1715-0903
Radio Direction Finder AN/BRD-6 Operational Maintenance NV-1715-0903
Tartar Weapons Direction System (WDS) Mk 4 WDE Mk 1 NV-1715-1391

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Tartar Weapons Direction System Mk 13 Mod 4
NV-1715-1264
Tartar Weapons Direction System Mk 14 Mod 5 (NTU)
NV-1402-0228
Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance
NV-1402-0112
Weapon Direction System (WDS) Mk 14 Terrier Console Operator
NV-1715-1239
Weapon Direction System Mk 14 (MR) New Threat Upgrade
NV-1402-0240
Weapon Direction System Mk 14 Mod 5 New Threat Upgrade
NV-1402-0229
Weapon Direction System Mk 14 Mod 5 Operator (Common Program)
NV-1402-0240

Director
Radar Set AN/SPG-51D Gun and Guided Missile Director Mk 73 Mod 2 and Ancillary Equipment Operation and Maintenance
NV-1715-1035

Disablement
Advanced Access and Disablement
NV-2202-0153

Disaster
Disaster Preparedness Operations Specialist
NV-0801-0013
Disaster Recovery Training
NV-0802-0012
Disaster Recovery Training Chemical, Biological, and Radiological
NV-0802-0011

Disbursing
Disbursing Clerk Financial Returns
NV-1408-0001
Disbursing Clerk Financial Returns, Class C
NV-1408-0001
Disbursing Clerk Travel Payments
NV-1408-0002
Disbursing Clerk, Class A1
NV-1401-0006
Disbursing Clerk, Class C (Financial Returns)
NV-1408-0001
Disbursing Clerk, Class C (Travel Payments)
NV-1408-0002
Senior Disbursing Clerk Enlisted Refresher
NV-1401-0005

Discharge
Cargo Offload and Discharge System/Container Offloading and Transfer Systems (COLD/COTS)
NV-1731-0004
Offshore Petroleum Discharge System Beach Termination Unit (BTU) Operations Technician
NV-1601-0038
Offshore Petroleum Discharge System Officer-in-Charge
NV-1601-0036
Offshore Petroleum Discharge System Side Loadable Warping Tug (SLWT) Operations Technician
NV-1708-0003

Disk
Magnetic Disk File (MDF) Theory and Electrical Maintenance
NV-1715-1464
Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88
NV-1715-1484
Magnetic Disk File (MDF), Theory and Electrical Maintenance FCS Mk 98 Mod 0
NV-1402-0140
Magnetic Disk File Theory and Mechanical Maintenance Fire Control System (FCS) Mk 98 Mod 0
NV-1402-0122

Display
Aegis Display System Operating and Maintenance
NV-1715-1301
Aegis Display System Operating and Maintenance (CG-60-73/DDG)
NV-1715-1747
Aegis Display System Operation and Maintenance
NV-1715-1301
AN/ASM-398 Projected Map Display Set (PMDS) Intermediate Maintenance
NV-1715-0529
AN/ASN-123 Digital Display Group (DDG) Intermediate Maintenance
NV-1715-1616
AN/ASN-99 Projected Map Display Set Intermediate Maintenance
NV-1715-0162
AN/ASN-99(V) Projected Map Display Set Intermediate Maintenance
NV-1715-0162
AN/AVA-1 Vertical Display Indicator Group Intermediate Maintenance
NV-1715-0159
AN/AVM-11 (V) Head Up Display Test Set Intermediate Maintenance (A-7E)
NV-1704-0229
AN/AVQ-7A/B Head Up Display Set Intermediate Maintenance
NV-1704-0253
AN/USH-17(V-3)(V-7) Mission Recorder Set and AN/UPQ-5 Display Set with Ground Support Equipment Intermediate Maintenance
NV-1715-0951
AN/UYA-4 Display Maintenance Includes Beacon Video Processor
NV-1715-1259
AN/UYX-1(V) Bright Radar Alpha-Numeric Display System (BRANDS)
NV-1715-1756
Aviation Electronic Warfare, Receivers, Analyzer, Recorder and Display Intermediate Level Maintenance
NV-1715-1149
Basic AN/UYA-4 Display Equipment Maintenance
NV-1715-1049
CG/CGN Combat Direction System Upgrade OJ-194A(V)3UYA-4(V) Display Maintenance Technician
NV-1402-0222
CG/GGN/DD-993 Combat Direction System Upgrade OJ-194A(V)3/UYA-4(V) Display Maintenance Technician
NV-1402-0222
CV/CVN/LHD Combat Direction System AN/UYQ-21 Display Maintenance Technician
NV-1402-0221
Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase I
NV-1402-0127
Display Console OJ-326(V)/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase III
NV-1402-0128
Display Console OJ-326(V)/UYK and Digital Display Indicator IR-1181/UYK Maintenance Phase II
NV-1402-0126
FFG-7 Data Display Group Subsystem
NV-1715-1743
Flat Panel Display Terminal Maintenance
NV-1402-0139
ID-2311/A Control Display Indicator (CDI) Intermediate Maintenance
NV-1715-1623
IP-722F/AVA-1 Analog Display Indicator Intermediate Maintenance
NV-1715-1420
IP-933 Video Display and CV-2434 Analog-Digital Converter Intermediate Maintenance
NV-1715-1626
Mk 113 Mod 10 Digital Display Subsystem
NV-1715-1013
P-3C Integrated Avionics System, Display Systems Organizational Maintenance
NV-1704-0349
P-3C Integrated Avionics Systems Display Systems Integrated Organizational Maintenance
NV-1715-1682
P-3C Sensor Station Three (Radar/Display)Technician Organization Maintenance
NV-1715-0640
Plotting System PT-512/S Tactical Display Maintenance
NV-1715-1136

Disposal
Advanced Explosive Ordnance Disposal
NV-2202-0152
Diver Explosive Ordnance Disposal
NV-0803-0011
NV-2202-0151
Explosive Ordnance Disposal Diver Candidates
NV-1606-0010
Explosive Ordnance Disposal Mixed Gas Diving Underwater Breathing Apparatus
NV-2202-0156
Explosive Ordnance Disposal Phase 2 (Navy), Class C1
NV-2202-0157
Explosive Ordnance Disposal Phase 2 (Surface) (C1)
NV-2202-0154
Explosive Ordnance Disposal Sonar Search System Basic
NV-2202-0155
Explosive Ordnance Disposal, Phase 1
NV-2202-0113

Distiller
Vapor Compression Distiller Maintenance and Operation
NV-1601-0028

Distribution
Electrical Distribution and Control Equipment Combined Maintenance
NV-1714-0005
Joint Tactical Information Distribution System
NV-1715-1741
Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance
NV-1715-1741

Radio Frequency Distribution Maintenance
NV-1402-0109
Radio Frequency Distribution Maintenance, Class C1
NV-1402-0109
SB-4220/SP Radar Signal Distribution Switchboard Maintenance
NV-1715-1592
Submarine Electrical Control and Distribution Equipment Combined Maintenance
NV-1714-0054

Diver
Diver Explosive Ordnance Disposal
NV-0803-0011
NV-2202-0151
Diver Explosive Ordnance Disposal Mk 16 Underwater Breathing Apparatus (UBA) Mixed Gas
NV-2202-0156
Diver First Class
NV-0803-0007
NV-1606-0008
Diver Second Class
NV-1606-0079
Explosive Ordnance Disposal Diver Candidates
NV-1606-0010
Marine Corps Combatant Diver
NV-0803-0009
Master Diver Evaluation
NV-1606-0016
Master Diver Qualification
NV-1606-0016
Navy Diver Second Class
NV-1606-0010
Scuba Diver
NV-1606-0011
NV-1606-0080
Submarine Scuba Diver
NV-1606-0080

Divers
Deep Sea Divers
NV-1606-0014

Diving
Basic Diving Officer
NV-0803-0008
NV-1606-0064
Deep Sea Diving Independent Duty Corpsman
NV-0702-0013
Deep Sea Diving Independent Duty Corpsman, Class C
NV-0702-0013
Deep Sea Helium-Oxygen Diving Officer
NV-1606-0009
Explosive Ordnance Disposal Mixed Gas Diving Underwater Breathing Apparatus
NV-2202-0156
Medical Deep Sea Diving Technician
NV-0803-0010
NV-1606-0014
Medical Department Diving Officers
NV-1606-0017
SEAL Scuba Diving Supervisor
NV-1606-0078
Ship Salvage Diving Officer
NV-1606-0065
Special Warfare Diving Equipment Maintenance and Repair
NV-0804-0002
Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance
NV-1715-1312

DLCS
AN/BSC-2 Data Link Communications System (DLCS) Equipment Combined Maintenance
NV-1715-1469

Documentary
Still Documentary Photography, Class C1
NV-1709-0010

Doppler
A-7 AN/APN-190 Doppler Radar Navigation System Intermediate Maintenance
NV-1715-0200
AN/APM-341(V) Doppler Test Set Intermediate Maintenance
NV-1715-0360
AN/APN-187 Doppler Radar (DIVARS) Intermediate Maintenance
NV-1715-1575
AN/APN-190(V) Doppler Radar Navigation System Intermediate Maintenance
NV-1715-0200

Douglas
Douglas Model D-704 and Sargent-Fletcher Model 31-300 Air Refueling Stores Organizational Maintenance
NV-1704-0046

DP-890A
Computer DP-890A and B/UYK Processor Maintenance 2
NV-1402-0080

Draft
Forced Draft Blower Maintenance
NV-1710-0110

DRAI
Dead Reckoning Tracer Mk 6/Mod 4B (DRAI/DRT) Maintenance, Class C1
NV-1715-1606
Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Combined Maintenance
NV-1715-1222
Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Maintenance
NV-1715-1606

Drilling
Equipment Operator Water Well Drilling and Development
NV-1601-0032

Drug
Navy Alcohol/Drug Safety Action Program (NASAP/NDSAP)
NV-0799-0007
Navy Drug and Alcohol Counselor
NV-0801-0011

Dry Cleaning
Dry Cleaning Specialist
NV-1716-0001

Duplex
Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer
NV-1715-1157

Duty
Deep Sea Diving Independent Duty Corpsman, Class C
NV-0702-0013
Limited Duty Officer/Chief Warrant Officer Indoctrination, Class PC
NV-1408-0029
Storekeeper Supply Afloat (Independent Duty), Class C
NV-1405-0017
Storekeepers (Independent Duty), Class C
NV-1405-0017
Submarine Force Independent Duty Corpsman, Class C
NV-0709-0021

Dynalec
Dynalec 200/700 Line Automatic Telephone Maintenance
NV-1404-0010

Dynamics
Dynamics Alignment Test Set (DATS) Intermediate Maintenance
NV-1715-1199
Dynamics Alignment Test Set (DATS) Operator
NV-1715-1200

E-2
E-2 Electrical and Instruments Integrated Organizational Maintenance
NV-1704-0366
E-2 Search Radar Set (Transmitter) Intermediate Maintenance
NV-1715-1518

E-2/C-2
E-2/C-2 Aircraft Familiarization (Flight Crew)
NV-1704-0359
E-2/C-2 Aircraft Rigging Organizational Maintenance
NV-1704-0362
E-2/C-2 Airframe and Hydraulics Systems Integrated Organizational Maintenance
NV-1704-0369
E-2/C-2 Environmental Systems Integrated Organizational Maintenance
NV-1701-0016
E-2/C-2 Power Plants/Propeller and Related Systems Integrated Organizational Maintenance
NV-1704-0360

E-2A
E-2A AN/ACQ-2 and AN/ACQ-2A Data Terminal Sets Intermediate Maintenance
NV-1715-0254
E-2A AN/APS-96 Search Radar Intermediate Maintenance
NV-1715-0672
E-2A AN/ARC-80 Radio Set Intermediate Maintenance
NV-1715-0190
E-2A Computer Indicator Semi-Automatic Checkout Equipment (SACE) Operation and Maintenance
NV-1715-0318
E-2A Digital Data Communications System (AN/ASW-14A) Intermediate Maintenance
NV-1715-0347
E-2A Radio Set AN/ARC-80 Intermediate Maintenance
NV-1715-0190

E-2B
E-2B AN/APS-96 Radar Organizational Maintenance
NV-1715-1203
E-2B Electronic Systems Organizational Maintenance
NV-1715-0776
E-2B Navigational Systems Organizational Maintenance
NV-1715-1215

E-2C
E-2C Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance
NV-1715-1521

E-2C Basic Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1517
E-2C Navigation System Technician Integrated Organizational Maintenance NV-1704-0368
E-2C Passive Detection System (PDS) AN/ALR-73 Organizational Maintenance NV-1715-1519
E-2C Vapor Cycle System Integrated Organizational Maintenance NV-1701-0018

E-6
E-6 Flight Engineer Initial Qualification NV-1704-0443

E-6A
E-6A Airborne Communications Officer NV-1715-1822
E-6A Aircraft Wiring and Connector Repair Organizational/Maintenance NV-1714-0082
E-6A Airframe and Hydraulics Systems Organizational Maintenance NV-1704-0451
E-6A Airframes and Hydraulic Systems (Initial) Organizational Maintenance NV-1704-0450
E-6A Communications Operator NV-1715-1825
E-6A Electric and Instrument Systems (Initial) Organizational Maintenance NV-1704-0448
E-6A Electrical and Instrument Systems Organizational Maintenance NV-1704-0446
E-6A Environmental Control Systems Organizational Maintenance NV-1704-0447
E-6A Flight Deck Avionics Systems Organizational Maintenance NV-1715-1826
E-6A Flight Engineer Organizational Level Maintenance NV-1715-1824
E-6A Mission Avionics System Intermediate Maintenance NV-1715-1827
E-6A Mission Avionics System Organizational Maintenance NV-1715-1823
E-6A Power Plant and Related Systems (Initial) Organizational Maintenance NV-1704-0445
E-6A Power Plant and Related Systems Organizational Maintenance NV-1704-0449
E-6A Reel Operator/Maintenance Technician NV-1704-0452

E2/C2
E2/C2 Environmental Systems Organizational Maintenance NV-1701-0014
E2/C2 Power Plants and Propeller Organizational Maintenance NV-1704-0338

EA-3B
EA-3B Navigator Electronic Warfare NV-1606-0083
VQ/VAQ/VMAQ Pilot and EA-3B Navigator Electronic Warfare (EW) Officer NV-1606-0066

EA-6A
A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085

EA-6B
EA-6B Electrical and Instrument Systems Consolidated Organizational Maintenance NV-1704-0358
EA-6B Electrical Systems Organizational Maintenance NV-1704-0242
EA-6B Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0342
EA-6B Hydraulic/Structures Systems Integrated Organizational Maintenance NV-1704-0411
EA-6B I CAP 2 Communication, Navigation, and Radar Organizational Maintenance NV-1704-0357
EA-6B ICAP Electronic Countermeasures Analyst Organizational Maintenance NV-1715-0955
EA-6B Integrated Electronic Attack System (CAREER) Organizational Maintenance NV-1715-1613
EA-6B Integrated Electronic Countermeasures System Consolidated Organizational Maintenance NV-1715-1613
EA-6B Integrated Electronic Countermeasures System Organizational Maintenance NV-1715-1613
EA-6B Safety Equipment Organizational Maintenance NV-1704-0410

Early
E-2C Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1521
E-2C Basic Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1517

EC-130
EC-130 Airframe and Hydraulic Systems Maintenance NV-1704-0278
EC-130 Electrical and Instruments Maintenance NV-1715-1181
EC-130 Environmental Systems Maintenance NV-1704-0279
EC-130 Power Plant and Related Systems Maintenance NV-1704-0280

ECM
AN/SLQ-32(V)3 Electronic Countermeasures (ECM) Maintenance NV-1715-1145

Eddy
Nondestructive Testing of Metals Eddy Current Inspection, Class C1 NV-1724-0008
Ultrasonic/Eddy Current Inspector NV-1724-0013

Education
Leadership and Management Education and Training (LMET) for Chief Petty Officers NV-1717-0015
Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers NV-1717-0015
Leadership and Management Education and Training (LMET) for Leading Petty Officers NV-1717-0014
Leadership Management Education and Training (LMET) Instructor NV-1717-0021
Leadership Management Education and Training, Class C1 NV-1717-0021
Religious Program Specialist, Class C (Religious Education) NV-1406-0026

Effectiveness
Organizational Effectiveness Advanced Consultant Course NV-0326-0004
Organizational Effectiveness Specialist NV-0326-0003

Egress
Aviation Structural Mechanic E (Safety Equipment) Egress Strand, Class A1 NV-1704-0439
S-3A Environmental Control, Miscellaneous Utilities and Egress Systems Organizational Maintenance NV-1730-0007

Ejection
F/A-18 Safety Equipment SJU-S/A Ejection Seat Organizational Maintenance NV-1606-0084

Electric
Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698
Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance NV-1715-0700
E-6A Electric and Instrument Systems (Initial) Organizational Maintenance NV-1704-0448
Electric Motor Rewind, Class C NV-1714-0016
MMG-1A Mobile Electric Power Plant Intermediate Maintenance NV-1714-0038
NC-8A/-1 Mobile Electric Power Plant Intermediate Maintenance NV-1732-0021

Electrical
400 Hertz Motor Generator Electrical System Maintenance, Class C1 NV-1714-0049
500 kW 60 Hertz Motor Generator Set Electrical Maintenance NV-1714-0046
6L16 Electrolytic Oxygen Generator Electrical Technician NV-1715-1840
6L16 Oxygen Generator Electrical Technician NV-1715-0918
A-6/EA Electrical Connector/Wire Bundle Repair NV-1714-0065

A-6/EA-6 Electrical/Wire Bundle Repair NV-1714-0065
A-7 Electrical and Instrument Systems Organizational Maintenance NV-1704-0079
A-7A/B Electrical and Instrument Systems Organizational Maintenance NV-1704-0079
A-7E Electrical and Instrument Systems Organizational Maintenance NV-1704-0080
Advanced Training Field Phase 2 Electrical Maintenance (FFG-7) NV-1715-1717
AN/USM-403 Electrical System Equipment Test Set Intermediate Maintenance NV-1714-0032
AN/USM-604 Electrical Equipment Test Set Operator/Maintainer Intermediate Maintenance NV-1714-0071
AV-8B Aircraft Electrical Systems Technician Integrated Organizational Maintenance NV-1704-0404
Aviation Support Equipment Technician Electrical NV-1714-0019
C-2A Electrical and Instruments Integrated Organizational Maintenance NV-1704-0365
Denison Electrical and Electronics Control Maintenance and Controls for Logic Elevators NV-1704-0257
E-2 Electrical and Instruments Integrated Organizational Maintenance NV-1704-0366
E-6A Electrical and Instrument Systems Organizational Maintenance NV-1704-0446
EA-6B Electrical and Instrument Systems Consolidated Organizational Maintenance NV-1704-0358
EA-6B Electrical Systems Organizational Maintenance NV-1704-0242
EC-130 Electrical and Instruments Maintenance NV-1715-1181
Electrical Control Devices NV-1714-0050
Electrical Distribution and Control Equipment Combined Maintenance NV-1714-0005
Electrical Motor Rewind NV-1714-0076
Electrical Power Distribution 2 NV-1714-0081
Engineering Electrical Core NV-1715-1793
F-14 Aircraft Electrical Connector/Wire Repair Organizational Maintenance NV-1714-0067
F-14D Electrical Integrated Systems Organizational Maintenance NV-1704-0364
F/A-18 Electrical Instruments Consolidated Organizational Maintenance NV-1714-0068
F/A-18 Electrical Systems WRA Repair Intermediate Maintenance NV-1714-0069
FFG-7 Auxiliary Electrical System Technician NV-1714-0070
FFG-7 Auxiliary Electrical Systems NV-1714-0031
FFG-7 Auxiliary Electrical Systems Maintenance NV-1714-0031
FFG-7 Class Ship Auxiliary Electrical Subsystem NV-1714-0043
FFG-7 Class Ship Auxiliary Electrical Subsystem Technician NV-1714-0030
FFG-7 Class Ship Auxiliary Electrical System Technician NV-1732-0010
FFG-7 Electrical Plant Control Console Operator Electrical Maintenance NV-1714-0039
FFG-7 Electrical Plant Control Console Operator Mechanical Maintenance NV-1714-0040
FFG-7 Electrical Systems Maintenance NV-1714-0041
FFG-7 Engineering System Maintenance Management, Electrical, Class C1 NV-1714-0023
Fixed Wing Electrical/Instrument Systems Intermediate Maintenance NV-1704-0405
Gas Turbine Electrical Maintenance (FFG-7) NV-1715-1717
Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47 NV-1715-1716
Gas Turbine Electrical Maintenance DDG-51/AOE-6, Class C NV-1710-0162
Gas Turbine Electrical Phase II, Class C, DD-963 Strand NV-1715-1716
Gas Turbine Electrical Phase II, Class C, FFG-7 Strand NV-1715-1717
Gas Turbine Electrical, Class A NV-1710-0102
Gas Turbine Systems Technician Electrical, Class A1 NV-1714-0024
Hovering and Missile Compensation and Associated Position Control Units Electrical Maintenance NV-1715-1311
Interior Communications Surface Ship Electrical Advanced NV-1715-1296
Job Oriented Basic Skills, Strand 6, Electrical, Class AP NV-1714-0063
LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician NV-1715-1786
Magnetic Disk File (MDF) Theory and Electrical Maintenance NV-1715-1464
Magnetic Disk File (MDF), Theory and Electrical Maintenance FCS Mk 98 Mod 0 NV-1402-0140
MH-53E Electrical and Instrument Systems Organizational Maintenance NV-1715-1520
Missile Launcher System Mk 24 Maintenance Electrical NV-1714-0004
P-3 Electrical Components Intermediate Maintenance NV-1704-0072
P-3 Electrical Systems Intermediate Maintenance NV-1704-0072
P-3, C-130, C-2 Electrical Components Intermediate Maintenance NV-1715-1666
P-3A/B Integrated Electrical System Organizational Maintenance NV-1704-0375
P-3C Integrated Electrical System Integrated Organizational Maintenance NV-1704-0377
P-3C Integrated Electrical Systems Organizational Maintenance NV-1704-0355
S-3A Electrical System Intermediate Maintenance NV-1714-0034
S-3A Electrical Systems Organizational Maintenance NV-1714-0033
SH-2F Electrical Component Intermediate Maintenance NV-1714-0035
SH-2F Electrical System Organizational Maintenance NV-1714-0036
SH-3 Electrical Components Intermediate Maintenance NV-1704-0031
SH-3 Electrical Systems Organizational Maintenance NV-1704-0114
SH-3A/D Electrical Systems Organizational Maintenance NV-1704-0114
SH-60B Electrical System Organizational Maintenance NV-1714-0037
SH-60F/HH-60H Electrical/Instrument Systems Consolidated Maintenance NV-1704-0347
Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance NV-1715-1312
Submarine Electrical Control and Distribution Equipment Combined Maintenance NV-1714-0054
UH-1N Electrical/Instrument Systems Organizational Maintenance NV-1704-0273

Electrician
  Advanced Construction Electrician NV-1714-0058
  Construction Electrician Power and Communications Cable Splicing NV-1714-0059
  Construction Electrician, Class A NV-1714-0055
  Construction Electrician, Class C1 Advanced NV-1714-0058
  CV Catapult Electrician NV-1714-0042
  Interior Communications Electrician Advanced Maintenance Training NV-1715-1296
  Interior Communications Electrician, Class A NV-1714-0062
  Interior Communications Electrician, Class A1 NV-1714-0062

Electrician's Mate
  Aviation Electrician's Mate Intermediate, Class C7 NV-1714-0052
  Aviation Electrician's Mate Strand, Class A1 NV-1715-1820

Aviation Electrician's Mate, Class A1
NV-1714-0051
Electrician's Mate Advanced Maintenance Training
NV-1715-1295
Electrician's Mate Maintenance, Class C1
NV-1714-0003
Electrician's Mate Maintenance, Class P
NV-1714-0003
Electrician's Mate Surface Ship Electrician Advanced Maintenance
NV-1715-1295
Electrician's Mate, Class A
NV-1714-0044
NV-1714-0073
Minesweeping Electrician's Mate
NV-1714-0027
Review of Basic Circuit Concepts for Electrician's Mate
NV-1715-1294

Electricity
Electricity, Electronics, and Hydraulics, Class AP
NV-1715-0565

Electro-Optical
AN/AAM-60(V)2 Electro-Optical Systems Test Set Intermediate Maintenance
NV-1715-1663
AN/AAM-60(V)6 Electro-Optical Test Set Intermediate
NV-1715-1190

Electro-Optics
Electro-Optics/Cryogenics Fundamentals
NV-1715-1414

Electroencephalography
Electroencephalography Technician
NV-0709-0020

Electromagnetic
Electromagnetic Compatibility Technician
NV-1715-1349

Electronic
A-6/EA-6A Electronic Systems Integrated Organizational Maintenance
NV-1715-1735
AN/AAS-33A Electronic Control Amplifier Intermediate Maintenance
NV-1715-1620
AN/SLQ-32(V)3 Electronic Countermeasures (ECM) Maintenance
NV-1715-1145
AN/SLQ-32A(V)3 Electronic Countermeasure Maintenance
NV-1715-1655
AN/USM-406C Electronic Equipment Test Set Operation and Intermediate Maintenance Training
NV-1715-1727
AN/WLR-1H(V)3/(V)5 Electronic Support Measures (ESM) Combined Maintenance
NV-1715-1648
AN/WLR-1H(V)3/(V)5 Electronic Surveillance Measures System Combined Maintenance
NV-1715-1648
AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance
NV-1704-0399
Aviation Electronic Warfare Operator
NV-1715-1880
E-2B Electronic Systems Organizational Maintenance
NV-1715-0776
EA-6B ICAP Electronic Countermeasures Analyst Organizational Maintenance
NV-1715-0955
EA-6B Integrated Electronic Attack System (CAREER) Organizational Maintenance
NV-1715-1613
EA-6B Integrated Electronic Countermeasures System Consolidated Organizational Maintenance
NV-1715-1613
EA-6B Integrated Electronic Countermeasures System Organizational Maintenance
NV-1715-1613
Electronic Hovering and Depth Control Combined Maintenance
NV-1715-0934
Electronic Hovering and Missile Compensation
NV-1715-0934
Electronic Security Systems Maintenance (ESSM), Class C
NV-1721-0013
Electronic Special Circuits
NV-1715-1401
Electronic Support Measures (ESM) 637 Class Type 2 Combined Maintenance Pipeline
NV-1715-1483
Electronic Surveillance Maintenance (ESM) AN/WLR-8(V)2 Basic Operator
NV-1715-0989
Electronic Surveillance Measures (ESM) AN/BLD-1 Direction Finding Set Combined Maintenance
NV-1715-1553
Electronic Surveillance Measures (ESM) AN/WLR-6 Combined Maintenance
NV-1715-0501
Electronic Surveillance Measures (ESM) AN/WLR-8(V)2 Combined Operator Maintenance
NV-1715-0469
Electronic Technology, Class A1
NV-1715-1252
NV-1715-1254
Electronic Warfare Electronic Technology
NV-1715-1658
Electronic Warfare Technician AN/SLQ-32(V2) Electronic Surveillance Measures (ESM) Maintenance
NV-1402-0075
Fleet Electronic Support Maintenance, Class C1
NV-1715-1251
General Purpose Electronic Test Equipment (GPETE) Field Calibration Activity Operator
NV-1715-1782
General Purpose Electronic Test Equipment (GPETE) Fleet Electronic Calibration Laboratory Maintenance
NV-1715-1783
General Purpose Electronic Test Equipment Functional and Operational Use
NV-1715-1331
General Purpose Electronic Test Equipment Repair and Calibration
NV-1715-1828
General Purpose Electronic Test Equipment Repair Intermediate Maintenance
NV-1715-1494
Miniature Electronic Repair Program, Class F-1
NV-1715-0815
Miniature Microminiature Electronic Repair Inspector
NV-1715-1583
Miniature/Microminiature Electronic Repair (2M)
NV-1715-0815
Ocean Systems Technician Electronic
NV-1715-1114
S-3A Electronic Systems Organizational Maintenance
NV-1715-1196
SH-60F/HH-60H Electronic Systems Consolidated Maintenance
NV-1715-1561
SSN/SSBN Electronic Hovering and Depth Control Combined Maintenance
NV-1715-0934
Strategic Weapons System (SWS) Electronic Mathematics
NV-1107-0001
Strategic Weapons System Electronic, Class A
NV-1715-1400
Three Winch Controller Using Standard Electronic Modules (SEM) and Controls for Logic Elevators
NV-1710-0111

Electronic Warfare
Advanced Electronic Warfare Applications
NV-1715-1143
Aviation Electronic Warfare Fundamentals and Organizational Level Maintenance
NV-1715-1651
Aviation Electronic Warfare Intelligence Operator
NV-1715-1689
Aviation Electronic Warfare, Receivers, Analyzer, Recorder and Display Intermediate Level Maintenance
NV-1715-1149
Aviation Squadron Electronic Warfare (EW) Officer, Class A2
NV-1715-0831
Basic Electronic Warfare Operations
NV-1715-1656
EA-3B Navigator Electronic Warfare
NV-1606-0083
Electronic Warfare Advanced Refresher
NV-1715-1644
Electronic Warfare Advanced Technology
NV-1715-1641
Electronic Warfare Applications (Advanced)
NV-1715-1687
Electronic Warfare Applications Advanced
NV-1715-1687
Electronic Warfare Electronic Support Measures System Maintenance, Class A
NV-1715-0780
Electronic Warfare Electronic Technology
NV-1715-1658
Electronic Warfare Officer Surface
NV-2202-0115
Electronic Warfare Operations
NV-1715-1656
Electronic Warfare Support Systems and Test Equipment
NV-1715-1652
Electronic Warfare Technician AN/SLQ-32 Operator
NV-1715-1144
NV-1715-1688
Electronic Warfare Technician AN/SLQ-32(V) 4 Maintenance
NV-1715-1650
Electronic Warfare Technician AN/SLQ-32(V)4 Maintenance
NV-1715-1650

Electronic Warfare Technician AN/SLQ-32(V2) Electronic Surveillance Measures (ESM) Maintenance
NV-1402-0075
Electronic Warfare Technician AN/SLQ-32A(V)2 Maintenance
NV-1715-1653
Electronic Warfare Technician AN/WLR-1 Electronic Support Measures System Maintenance
NV-1715-0780
Electronic Warfare Technician CV/CVN Operations
NV-1402-0192
Electronic Warfare Technician WLR-1H Maintenance
NV-1715-1250
Electronic Warfare Technician, Class A (A-2), Electronic Support Measures System Maintenance
NV-1715-0780
Electronic Warfare Watch Supervisor Surface
NV-1715-1237
Naval and Marine Aviation Electronic Warfare Officer
NV-2202-0166
Naval and Marine Electronic Warfare Officer
NV-2202-0108
Surface Electronic Warfare Officer
NV-2202-0115
Surface Electronic Warfare Operations Intermediate
NV-1715-1334
VQ/VAQ/VMAQ Pilot and EA-3B Navigator Electronic Warfare (EW) Officer
NV-1606-0066

Electronics
Advanced Electronics Technical Core
NV-1715-1887
Aviation Electronics Warfare Fundamentals
NV-1715-1146
Aviation Electronics Warfare Intermediate Level Maintenance
NV-1715-1149
Aviation Electronics Warfare O Level Maintenance
NV-1715-1147
Basic Electronics Rate Training
NV-1715-1444
Basic Electronics Test Equipment
NV-1715-1325
Combat Systems Electronics Administration Atlantic Fleet
NV-1715-1784
Denison Electrical and Electronics Control Maintenance and Controls for Logic Elevators
NV-1704-0257
Digital and Electronics Training
NV-1715-0050
NV-1715-1850
Electricity, Electronics, and Hydraulics, Class AP
NV-1715-0565
Electronics Technician Communications Strand, Class A
NV-1715-1863
Electronics Technician Radar Strand Class A
NV-1715-1864
F/A-18 Combined Electronics Systems Consolidated Organizational Maintenance
NV-1704-0384
FFG-7 Class Navigation Electronics Subsystem Maintenance
NV-1715-1590
Job Oriented Basic Skills (JOBS), Class AP-1, Electronics Ratings, Strand 4
NV-0501-0003
Microminiature Electronics Repair
NV-1715-1330
NV-1715-1514
Miniature Electronics Repair
NV-1715-1345
NV-1715-1410
Miniature/Microminiature (2M) Electronics Repair Instructor Certification
NV-1715-1516
Periscope Set Type 15 Electronics Combined Maintenance
NV-1715-0988
Prospective Electronics Material Officer Pacific
NV-1715-1603
Solid State Theory and Digital Electronics
NV-1715-0103
Submarine Sonar Technician Unique Electronics
NV-1715-1550
Trident (ECS) Electronics Command and Control System Technician Conversion
NV-1715-1362

Electronics Technician
AIMS Mk 12 IFF System Maintenance (Electronics Technician, Class C1)
NV-1715-0812
AN/SPS-40B Radar Set Maintenance (Electronics Technician, Class C1)
NV-1715-0809
AN/SPS-43A/37A Radar Set Maintenance (Electronics Technician, Class C1)
NV-1715-0790
AN/SRC-20, AN/SRC-21 Radio Sets Maintenance (Electronics Technician, Class 1)
NV-1715-0088
AN/UCC-1 Series Telegraph Terminal Maintenance (Electronics Technician, Class C1)
NV-1715-0009
AN/URN-20 TACAN Maintenance (Electronics Technician, Class C1)
NV-1715-0193
AN/URT-23 Radio Transmitter Set With AN/URA-38 Antenna Coupler Maintenance (Electronics Technician, Class C1)
NV-1715-0056
Combat Systems Technical Core Electronics Technician/Fire Control Technician
NV-1715-1788
Electronics Technician Advanced Electronics Field/ Marine Corps/Foreign, Class A1
NV-1715-1069
Electronics Technician Air Force, Class A1
NV-1715-1072
Electronics Technician AN/URN-20 Radio Set, Class C Maintenance
NV-1715-0193
Electronics Technician Maintenance
NV-1715-1010
Electronics Technician Nuclear Field, Class A1
NV-1715-1070
Electronics Technician Strand, Class A
NV-1715-1796
Electronics Technician Submarine/Reserve, Class A1
NV-1715-1071
Electronics Technician, AN/SRC-20, AM/SRC-21 Radio Set Maintenance
NV-1715-0088
Electronics Technician, AN/URC-9, AN/SRC-20, AN/SRC-21 Radio Sets with AN/SRA-33 Antenna Coupler Maintenance
NV-1715-0088
Electronics Technician, Class A
NV-1715-1489
NV-1715-1736
NV-1715-1794
Electronics Technician, Class A for Attack Class Submarines
NV-1715-1556
Electronics Technician, Class B
NV-1715-0754
Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance
NV-1715-0065
Electronics Technician, Class C1
NV-1715-0175
NV-1715-0749
Electronics Technician, Class C7
NV-1715-0754
Fleet Electronics Technician
NV-1715-1865
Trident Command and Control System (CCS) Electronics Technician Conversion
NV-1715-1364

Electrostatically
Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion
NV-1715-1131
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Aids Technician Conversion
NV-1715-1132
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem
NV-2205-0002
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem Theory
NV-1715-1457
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation
NV-1715-1397
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Navigation Officer Replacement
NV-2205-0001
Electrostatically Supported Gyro Monitor (ESGM) Calibration
NV-1715-1375
NV-1715-1458
Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer
NV-1715-1157
Electrostatically Supported Gyro Monitor (ESGM) Theory and Maintenance
NV-1715-1158
Electrostatically Supported Gyro Navigator Theory and Maintenance 1
NV-1715-1802
Electrostatically Supported Gyro Navigator Theory and Maintenance 2
NV-1715-1804
Trident Electrostatically Supported Gyro Monitor (ESGM) NAVAIDS Technician Replacements
NV-1715-1371
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement
NV-1715-1370

Elevated
- Elevated Causeway NV-1601-0035
- Elevated Causeway Navy Lighterage NV-1601-0037

Elevator
- Cargo Weapons Elevator Maintenance NV-1704-0323
- SD/P Elevator System Maintenance Technician NV-1714-0045

Elevators
- Denison Electrical and Electronics Control Maintenance and Controls for Logic Elevators NV-1704-0257
- Three Winch Controller Using Standard Electronic Modules (SEM) and Controls for Logic Elevators NV-1710-0111

ELINT
- Battle Force ELINT Analyst NV-1715-1873
- Cryptologic Technician (Technical) ELINT Operator NV-1402-0066

Emergency
- AN/FSC-104(V) Standard Emergency Communications System, Class G1 NV-1715-1761

Emitters
- Mobile Systems Technical Data Facility/SIGINT Classification of Recognized Emitters Maintenance NV-1402-0181
- SIGINT Classification of Recognized Emitters NV-1402-0183

Engine
- Aviation Support Equipment Diesel Engine Driven Fork Lift Trucks Intermediate Maintenance NV-1710-0136
- Aviation Support Equipment GTCP-100 Engine Intermediate Maintenance NV-1704-0109
- Diesel Engine Inspector Training and Certification NV-1712-0041
- Diesel Engine, Class C Core NV-1712-0032
- Diesel Engine, Class C Module 4 NV-1712-0033
- Diesel Engine, Class C, Module 1 NV-1712-0038
- Diesel Engine, Class C, Module 2 NV-1712-0039
- Diesel Engine, Class C, Module 3 NV-1712-0040
- Diesel Engine/Fairbanks-Morse Maintenance Technician NV-1712-0002
- Diesel Engine/Waste Heat FFG-7 NV-1712-0037
- F402-RR-406A Engine Intermediate Maintenance NV-1704-0397
- F402-RR-408 Engine Intermediate Maintenance NV-1704-0406
- F404-GE-400 Engine First Degree Intermediate Maintenance NV-1704-0387
- FFG-7 Auxiliary 16V149TI Diesel Engine Maintenance NV-1712-0027
- GTCP95-2 and GTCP95-3 Gas Turbine Engine Intermediate Maintenance NV-1710-0138
- Internal Combustion Engine and Related Systems Intermediate Maintenance NV-1703-0019
- LM2500 Engine Changeout NV-1703-0013
- Main Engine and Lube Oil Purifier NV-1601-0027
- P-3 Engine Driven Compressor Intermediate Maintenance NV-1704-0378
- P-3 T-56-A-14 Engine and Related Systems Maintenance NV-1704-0019
- P-3 T56-A-10/14 Engine and Related Systems Organizational Maintenance NV-1704-0019
- Small Boat Engine Overhaul NV-1712-0034
- Small Boat Engine Overhaul Technician NV-1712-0045
- T-41-A-2 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0123
- T56-A-425/426 Engine Second Degree Intermediate Maintenance NV-1704-0370
- TF 30-P-414 Series Engine First Degree Intermediate Maintenance NV-1704-0363
- TF30-P-8 Intermediate Maintenance/Complete Engine Repair NV-1704-0016
- TF30-P-8/408 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0016
- TF41-A-2 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0123
- Trident Diesel Engine Supervisor NV-1712-0029
- Trident Submarine Diesel Engine Maintenance NV-1712-0028
- Waukesha Diesel Engine NV-1712-0001

Engineer
- Barge Ferry Engineer O Level Maintenance NV-1712-0035
- Basic Flight Engineer NV-1704-0444
- E-6 Flight Engineer Initial Qualification NV-1704-0443
- E-6A Flight Engineer Organizational Level Maintenance NV-1715-1824
- FFG-7 Engineer Division Officer NV-1704-0268
- Landing Craft Air Cushion Engineer/Assistant Operator NV-1722-0016
- P-3 Flight Engineer System, No. 6 NV-1704-0048
- P-3C Flight Engineer System Familiarization NV-1704-0379
- Prospective Nuclear Engineer Officer NV-1732-0011
- Small Boat Engineer NV-1712-0036
- Surface Warfare Split Tour Engineer Officer NV-1717-0016

Engineering
- Advanced Engineering Aid NV-1713-0003
- DD-963 Engineering Department Division Officer NV-1704-0267
- DD-963 PCO/PXO Gas Turbine Engineering NV-1601-0024
- Engineering Aid, Class A NV-1601-0031
- Engineering Common Core NV-0707-0003
- Engineering Electrical Core NV-1715-1793
- Engineering Hydraulic Systems and Components Basic NV-1704-0419
- Engineering Maintenance Principles, Practices, and Administration NV-1710-0108
- Engineering Mechanical Core NV-1704-0420
- Engineering Principles and Practices NV-1601-0020
- Engineering Systems Maintenance Management NV-1704-0262
- FFG-7 Engineering System Maintenance Management, Electrical, Class C1 NV-1714-0023
- FFG-7 Engineering System Maintenance Management, Mechanical, Class C1 NV-1704-0260
- FFG-7 Introduction to Engineering Maintenance Management, Class C1 NV-1704-0262
- FFG-7 PCO/PXO Gas Turbine Engineering NV-1601-0023
- International Hydrographic Management and Engineering NV-1722-0017
- Introduction to Engineering Systems Maintenance and Management NV-1732-0022
- Propulsion Engineering Basics, Class AP NV-1704-0263
- Senior Enlisted Engineering Management NV-1732-0025
- Senior Enlisted Propulsion Engineering NV-1732-0014
- Senior Enlisted Propulsion Engineering (Steam, Gas Turbine, Diesel) NV-1732-0014
- Technical Engineering NV-1601-0031

Engineman
- Engineman Basic NV-1703-0005
- Engineman Six Year Obligor Advanced Operator/Maintenance Auxiliary Strand NV-1710-0123
- Engineman Six Year Obligor Advanced Operator/Maintenance Core NV-1710-0122
- Engineman Six Year Obligor Advanced/Maintenance (Main Propulsion Strand) NV-1732-0024
- Engineman, Class A School Strand NV-1712-0024
- Engineman, Class A, Class A1 NV-1712-0024
- Engineman, Class C, Core NV-1712-0032

- Engineman, Class C, Module 1 NV-1712-0038
- Engineman, Class C, Module 3 NV-1712-0040
- Mine Warfare Engineman Basic NV-1703-0005
- Mine Warfare Packard Diesel Engineman, Class C NV-1712-0012

Enlisted
- Basic Enlisted Submarine NV-2202-0148
- Enlisted Sonar Principles NV-1715-0991
- Senior Enlisted Academy NV-2202-0110
- Senior Enlisted Engineering Management NV-1732-0025
- Senior Enlisted Propulsion Engineering NV-1732-0014
- Senior Enlisted Propulsion Engineering (Steam, Gas Turbine, Diesel) NV-1732-0014

Entertainment
- Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance NV-1715-1230
- Shipboard Information, Training, and Entertainment (SITE) NV-1715-1230
- Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE) NV-1715-1230

Entitlements
- Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures NV-1401-0004

Environmental
- A-6A Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085
- A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085
- E-2/C-2 Environmental Systems Integrated Organizational Maintenance NV-1701-0016
- E-6A Environmental Control Systems Organizational Maintenance NV-1704-0447
- E2/C2 Environmental Systems Organizational Maintenance NV-1701-0014
- EA-6B Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0342
- EC-130 Environmental Systems Maintenance NV-1704-0279
- F-14D Environmental/Escape Systems Integrated Organizational Maintenance Specialist NV-1701-0017
- S-3A Environmental Control, Miscellaneous Utilities and Egress Systems Organizational Maintenance NV-1730-0007

EP-3E
- EP-3E Software Familiarization NV-1402-0178

Equalizer
- AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance NV-1715-1316

Equipment
- Advanced Auxiliary Equipment Package NV-1723-0016
- Advanced Equipment Operator NV-1710-0131
- Aircraft Launch and Recovery Equipment Maintenance Officer, Class 2 NV-1704-0308
- AN/ALR-50 Support Equipment Intermediate Maintenance NV-1715-1422
- Aviation Structural Mechanic E (Safety Equipment) Common Core, Class A1 NV-1704-0438
- Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance NV-1704-0353
- Aviation Support Equipment Technician, Class A1 NV-1704-0326
- Builder Tool and Equipment Maintenance NV-1002-0002
- Builder Tool and Equipment Maintenance Technician NV-1002-0002
- Data Terminal Equipment Maintenance NV-1402-0213
- Dental Equipment Repair Technology, Class C NV-1715-1511
- Equipment Operator Blasting and Quarry Operations NV-1710-0134
- Equipment Operator Water Well Drilling and Development NV-1601-0032
- Equipment Operator, Class A NV-1710-0130
- General Purpose Electronic Test Equipment Repair and Calibration NV-1715-1828
- General Purpose Electronic Test Equipment Repair Intermediate Maintenance NV-1715-1494
- Launcher Control and Monitoring Equipment NV-1402-0083
- LHD Computer and Peripheral Equipment Maintenance NV-1402-0224
- Meteorological Equipment Maintenance, Class C1 NV-1721-0012
- Missile Launcher Control and Monitoring Equipment NV-1402-0083
- Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance NV-1402-0089
- Missile Test and Readiness Equipment Mk 7 Mod 4 Advanced Circuitry NV-1402-0089
- Ocean Systems Technician Equipment Maintenance NV-1304-0007
- Oxygen Equipment Cleaning and Calibration NV-1601-0033
- Passive Equipment Cabinet (PEC) Operation and Maintenance NV-1715-1502
- Special Communications Equipment Combined Maintenance NV-1715-1475
- SUBROC Missile Mk 28 Mod 0 Test Equipment Intermediate Maintenance NV-1715-0795
- SUBROC Missile Mk 28 Mod 1 Test Equipment Intermediate Maintenance NV-1715-0795
- Torpedo Mk 37 Mods 0, 2, and 3 Test Equipment Intermediate Maintenance NV-1715-0788
- Torpedo Mk 37 Mods 2 and 3 Test Equipment Intermediate Maintenance NV-1715-0788
- Trident I Ship's Inertial Navigation System (SINS) Equipment NV-1715-1379

Escape
- A-6A Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085
- A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085
- EA-6B Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0342
- F-14D Environmental/Escape Systems Integrated Organizational Maintenance Specialist NV-1701-0017

ESGM
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion NV-1715-1131
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Aids Technician Conversion NV-1715-1132
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem NV-2205-0002
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem Theory NV-1715-1457
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation NV-1715-1397
- Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Navigation Officer Replacement NV-2205-0001
- Electrostatically Supported Gyro Monitor (ESGM) Calibration NV-1715-1375 NV-1715-1458
- Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer NV-1715-1157
- Electrostatically Supported Gyro Monitor (ESGM) Theory and Maintenance NV-1715-1158
- Inertial Navigation System (ESGM) AN/WSN-3A(V)2 Combined Maintenance NV-1715-1462

Trident Electrostatically Supported Gyro Monitor (ESGM) NAVAIDS Technician Replacements
NV-1715-1371
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement
NV-1715-1370

ESM
AN/WLR-1H(V)3/(V)5 Electronic Support Measures (ESM) Combined Maintenance
NV-1715-1648
Electronic Support Measures (ESM) 637 Class Type 2 Combined Maintenance Pipeline
NV-1715-1483
Electronic Surveillance Maintenance (ESM) AN/WLR-8(V)2 Basic Operator
NV-1715-0989
Electronic Surveillance Measures (ESM) AN/BLD-1 Direction Finding Set Combined Maintenance
NV-1715-1553
Electronic Surveillance Measures (ESM) AN/WLR-6 Combined Maintenance
NV-1715-0501
Electronic Surveillance Measures (ESM) AN/WLR-8(V)2 Combined Operator Maintenance
NV-1715-0469
Electronic Warfare Technician AN/SLQ-32(V2) Electronic Surveillance Measures (ESM) Maintenance
NV-1402-0075

Estimating
Construction Planning and Estimating Specialist
NV-1408-0034

Estimator
Construction Planner and Estimator
NV-1408-0034

Evaluation
Master Diver Evaluation
NV-1606-0016

Evaluator
Antisubmarine Warfare (ASW) Evaluator Common Core
NV-1715-1509

Exchange
AN/USQ-64(V) Common User Digital Information Exchange System (CUDIXS) Maintenance
NV-1715-0872
Common User Digital Information Exchange System (CUDIXS) Maintenance
NV-1715-0872
Navy Exchange Management
NV-1408-0023
Navy Exchange/Commissary Store Middle Management, Class C
NV-1408-0027
Officer in Tactical Command Information Exchange System
NV-1715-1343
Officer in Tactical Command Information Exchange System (TADIX Maintenance)
NV-1715-1343
Remote Information Exchange Terminal Operator
NV-1409-0009
Submarine Satellite Information Exchange Subsystem 2 (SSIXS 2) Maintenance
NV-1715-1777
Submarine Satellite Information Exchange Subsystem Combined Maintenance
NV-1715-1471
Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator
NV-1715-1778

Exciter
CV-3649/ALQ-99 Universal Exciter Intermediate Maintenance
NV-1715-1624
OJ-511/ALM Exciter Test Station Intermediate Maintenance
NV-1715-1416

Executive
Surface Warfare Officers Advanced Executive Command
NV-1717-0020

Expeditionary
A/M26U-5 Expeditionary Oxygen/Nitrogen System (EONS) Intermediate Maintenance Activity
NV-1720-0005
Expeditionary Warfare Intelligence
NV-1606-0089
Marine Expeditionary Airfield Equipment
NV-1710-0019
Marine Expeditionary Airfield Equipment, Class M1
NV-1710-0019

Explosive
Advanced Explosive Ordnance Disposal
NV-2202-0152
Diver Explosive Ordnance Disposal
NV-2202-0151
Diver Explosive Ordnance Disposal Mk 16 Underwater Breathing Apparatus (UBA) Mixed Gas
NV-2202-0156
Explosive Ordnance Disposal Diver Candidates
NV-1606-0010
Explosive Ordnance Disposal Mixed Gas Diving Underwater Breathing Apparatus
NV-2202-0156
Explosive Ordnance Disposal Phase 2 (Navy), Class C1
NV-2202-0157
Explosive Ordnance Disposal Phase 2 (Surface) (C1)
NV-2202-0154
Explosive Ordnance Disposal Sonar Search System Basic
NV-2202-0155
Explosive Ordnance Disposal, Phase 1
NV-2202-0113

Extended
Walleye 2 Extended Range Data Link Intermediate Maintenance
NV-1715-1032

Extractor
Washer Extractor Maintenance, Class F1
NV-1702-0002

F-14
F-14 Aircraft Electrical Connector/Wire Repair Organizational Maintenance
NV-1714-0067

F-14A
F-14A/A+ Wing Surface Control System Rigging Organizational Maintenance
NV-1704-0367

F-14D
F-14D Armament Systems Integrated Organizational Maintenance
NV-1704-0372
F-14D Avionics Technician Integrated Organizational Maintenance
NV-1715-1634
F-14D Electrical Integrated Systems Organizational Maintenance
NV-1704-0364
F-14D Environmental/Escape Systems Integrated Organizational Maintenance Specialist
NV-1701-0017

F/A
F/A Weapons Control System Organizational Maintenance
NV-1715-1692

F/A-18
F/A-18 Aviation Hydraulic/Structure Mechanic Consolidated Organizational Maintenance
NV-1704-0386
F/A-18 Combined Electronics Systems Consolidated Organizational Maintenance
NV-1704-0384
F/A-18 Communications, Navigation, Identification, and Countermeasures Organizational Maintenance
NV-1715-1703
F/A-18 Data Processing Set
NV-1402-0200
F/A-18 Data Processing Set Operator
NV-1715-1703
F/A-18 Electrical Instruments Consolidated Organizational Maintenance
NV-1714-0068
F/A-18 Electrical Systems WRA Repair Intermediate Maintenance
NV-1714-0069
F/A-18 Enhanced Comprehensive Asset Management System Operator Organizational Maintenance
NV-1402-0200
F/A-18 Hydraulic/Structures Mechanic Organizational Maintenance
NV-1704-0385
F/A-18 Integrated Weapons System Technician Organizational Maintenance
NV-1715-1704
F/A-18 Power Plants and Related Systems Integrated Organizational Maintenance
NV-1704-0388
F/A-18 Power Plants and Related Systems Organizational Maintenance
NV-1704-0383
F/A-18 Safety Equipment SJU-S/A Ejection Seat Organizational Maintenance
NV-1606-0084
F/A-18 Stores Management System Organizational Maintenance
NV-1715-1706

F402-RR-406A
F402-RR-406A Engine Intermediate Maintenance
NV-1704-0397

F402-RR-408
F402-RR-408 Engine Intermediate Maintenance
NV-1704-0406

F404-GE-400
F404-GE-400 Engine First Degree Intermediate Maintenance
NV-1704-0387

Facilities
DD-963 Facilities Control Quality Monitoring Operator NV-1715-1596

Facility
AN/TPX-42A(V)10 Radar Air Traffic Control Facility (RATCF) Direct Altitude Identity Readout (DAIR) Maintenance, Class G1 NV-1715-1435
Mobile Systems Technical Data Facility/SIGINT Classification of Recognized Emitters Maintenance NV-1402-0181
Radar Air Traffic Control Facility Operations, Class C1 NV-1704-0244

Fairbanks-Morse
Diesel Engine/Fairbanks-Morse Maintenance Technician NV-1712-0002
Fairbanks-Morse 38F 5 1/4 Diesel Maintenance Technician NV-1712-0031

Familiarization
E-2/C-2 Aircraft Familiarization (Flight Crew) NV-1704-0359
P-3C Flight Engineer System Familiarization NV-1704-0379

FBM
Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065

FC-1114
FC-1114 Combat System Computer System Maintenance Technician NV-1402-0121

FCS
Aegis FCS/ORTS Operation and Maintenance (CG-47-64) NV-1715-1750
Aegis FCS/ORTS Operation and Maintenance (CG-65-73/DDG) NV-1715-1749
Mk 117 Fire Control System (FCS) Basic Operation NV-1715-1219
Mk 37 Gun Fire Control System (FCS) NV-1715-1291
Mk 38 Gun Fire Control System (FCS) NV-1715-1290

Ferry
Barge Ferry Coxswain NV-1722-0012
Barge Ferry Engineer O Level Maintenance NV-1712-0035
Barge Ferry Pilot NV-1722-0011

FF-1052
FF-1052 Sonar Supervisor NV-1715-1503

FFG-7
Advanced Training Field Phase 2 Electrical Maintenance (FFG-7) NV-1715-1717
Basic FFG-7 Class AN/UYA-4(V) Equipment Maintenance NV-1715-1041
Basic Hydraulics for FFG-7 Auxiliaries NV-1704-0390
Diesel Engine/Waste Heat FFG-7 NV-1712-0037
FFG-7 Auxiliary 16V149TI Diesel Engine Maintenance NV-1712-0027
FFG-7 Auxiliary Electrical System Technician NV-1714-0070
FFG-7 Auxiliary Electrical Systems NV-1714-0031
FFG-7 Auxiliary Electrical Systems Maintenance NV-1714-0031
FFG-7 Auxiliary Mechanical Subsystem Technician NV-1704-0270
FFG-7 Auxiliary Mechanical Subsystem Technician, Class C1 NV-1715-1073
FFG-7 Auxiliary Mechanical System Technician NV-1704-0271 NV-1704-0391
FFG-7 Auxiliary Mechanical Systems Maintenance NV-1732-0023
FFG-7 Central Control Station Maintenance, Class C1 NV-1715-1074
FFG-7 Central Control Station Operation, Class C1 NV-1703-0012
FFG-7 Class Combat System Officer NV-1715-1232
FFG-7 Class Degaussing System Maintenance NV-1601-0026
FFG-7 Class Navigation Electronics Subsystem Maintenance NV-1715-1590
FFG-7 Class Ship Auxiliary Electrical Subsystem NV-1714-0043
FFG-7 Class Ship Auxiliary Electrical Subsystem Technician NV-1714-0030
FFG-7 Class Ship Auxiliary Electrical System Technician NV-1732-0010
FFG-7 Class Ship Interior Communications (IC) Subsystems Technician NV-1715-1075
FFG-7 Class Ship Replacement Crew Training NV-1715-1231
FFG-7 Data Display Group Subsystem NV-1715-1743
FFG-7 Electrical Plant Control Console Operator Electrical Maintenance NV-1714-0039
FFG-7 Electrical Plant Control Console Operator Mechanical Maintenance NV-1714-0040
FFG-7 Electrical Systems Maintenance NV-1714-0041
FFG-7 Engineer Division Officer NV-1704-0268
FFG-7 Engineering System Maintenance Management, Electrical, Class C1 NV-1714-0023
FFG-7 Engineering System Maintenance Management, Mechanical, Class C1 NV-1704-0260
FFG-7 Fin Stabilizer Systems NV-1704-0390
FFG-7 Fuel Systems, Mechanical, Class C1 NV-1704-0261
FFG-7 Introduction to Engineering Maintenance Management, Class C1 NV-1704-0262
FFG-7 Main Propulsion Assistant NV-1704-0268
FFG-7 PCO/PXO Gas Turbine Engineering NV-1601-0023
FFG-7 Replacement Crew Training NV-1715-1231
FFG-7 Weapons System Officer NV-1715-1232
FFG-7/36/61 Class Ships Data Group Subsystem Maintenance NV-1715-1743
FFG-7/DD-963 60/40 Hertz Static Frequency Converter Maintenance NV-1714-0029
FFG-7/DDG-993 60/400 Hertz Frequency Converter (Water-Cooled) System Maintenance NV-1714-0086
Gas Turbine Electrical Maintenance (FFG-7) NV-1715-1717
Gas Turbine Electrical Phase II, Class C, FFG-7 Strand NV-1715-1717
Gas Turbine System Technician Advanced Operator (FFG-7) NV-1710-0143
Guided Missile Frigate (FFG-7) Combat Systems Maintenance NV-1715-1036

Fiber
AN/FAC-6(V) Fiber Optics Intersite Maintenance, Class C1 NV-1715-1758
AV-8B Aircraft Wire/Connector and Fiber Optics Repair/Assembly Organizational Maintenance NV-1715-1728

Fiberglass
H-46 Fiberglass Rotor Blade Repair Intermediate Maintenance NV-1704-0395 NV-1704-0396

Field
Field Calibration Activity Maintenance NV-1715-1591
General Purpose Electronic Test Equipment (GPETE) Field Calibration Activity Operator NV-1715-1782

File
Magnetic Disk File (MDF) Theory and Electrical Maintenance NV-1715-1464
Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88 NV-1715-1484
Magnetic Disk File (MDF), Theory and Electrical Maintenance FCS Mk 98 Mod 0 NV-1402-0140
Magnetic Disk File Theory and Mechanical Maintenance Fire Control System (FCS) Mk 98 Mod 0 NV-1402-0122

Filter

AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance NV-1715-1316

Fin

FFG-7 Fin Stabilizer Systems NV-1704-0390

Financial

Disbursing Clerk Financial Returns NV-1408-0001
Disbursing Clerk Financial Returns, Class C NV-1408-0001
Disbursing Clerk, Class C (Financial Returns) NV-1408-0001

Fire

3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35) NV-1715-0655
3"/50 Rapid Fire Twin Mount Power Drive and Gun Maintenance NV-1715-0655
3"/50 Rapid Gun Fire Twin Mount Power Drive and Gun NV-1715-1535
Aviation Support Equipment A/S 32P-16 Fire Fighting Truck Intermediate Maintenance NV-1703-0016
Fire Controlman, Class A NV-1715-1713
Fire Controlman, Class A, School Strand NV-1715-1795
Fire Support Man NV-2202-0170
Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount NV-1715-0147
Shore Fire Control Party Training Path System NV-1601-0039
Trident 2 Fire Control Technician To Missile Technician Conversion NV-1715-1835
Trident Fire Control Technician Maintenance NV-1715-1844
Underwater Fire Control Mk 116/4 Operator and Maintenance, Class C NV-1715-1854
Underwater Fire Control System Mk 116/7 Antisubmarine Control System Maintenance/Operator NV-1715-1848

Fire Control

Aegis Fire Control System/ORTS Operation and Maintenance NV-1715-1304
Combat Systems Technical Core Electronics Technician/Fire Control Technician NV-1715-1788
Digital Control Computer Peripheral Equipment Advanced Maintenance Fire Control System Mk 88 Mod 1 NV-1402-0143
Fire Control System (FCS) Mk 113 All Models Common Equipment Combined Maintenance NV-1715-1006
Fire Control System (FCS) Mk 113 Mod 9 Mk 78 Analyzer Maintenance NV-1715-1008
Fire Control System (FCS) Mk 113 Mods 6/8 Mk 130 Digital Computer Maintenance NV-1715-1007
Fire Control System (FCS) Mk 88 Mod 1 Digital Control Computer NV-1715-0353
Fire Control System (FCS) Mk 92 Mod 2 Maintenance NV-1715-1087
Fire Control System Advanced Maintenance NV-1715-1321
Fire Control System Mk 88 Mod 2 Advanced Technician NV-1715-1399
Fire Control System Mk 92 Mod 1/2 Maintenance NV-1715-1534
Fire Control System Mk 92 Mod 2 Operation and Maintenance NV-1715-1534
Fire Control System Mk 98 Mod 0 Advanced Technician NV-1402-0137
Fire Control System Mk 98 Mod 0 Maintenance Procedures NV-1715-1321
Fire Control System Mk 98 Mod O Advanced Operations NV-1715-1322
Fire Control System Mk 98 Mod O Rev A Advanced Operations NV-1715-1322
Fire Control System Technician Mk 88 Mod 1 Replacement NV-1715-1385
Fire Control Technician Mk 88 Intermediate Level Maintenance NV-1715-1129
Fire Control Technician Mk 88 Mod 2 Replacement NV-1715-1128
Fire Control, Class A NV-1715-0155
Gun Fire Control System Mk 86 Consoles and Data Group Equipment Maintenance NV-1402-0106
Gun Fire Control System Mk 86 Radar Group Equipment Maintenance NV-1715-1289
Gun Fire Control System Mk 86 Radar Group Maintenance NV-1715-1289
Gun Fire Control System Mk 86 System Maintenance NV-1715-1789
Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88 NV-1715-1484
Mk 116 MOD 4 Underwater Fire Control System (FCS) Maintenance NV-1715-0268
Mk 117 Fire Control System (FCS) Basic Operation NV-1715-1219
Mk 118 Fire Control System Advanced Maintenance NV-1402-0124
Mk 118 Fire Control System Basic Maintenance NV-1715-1326
Mk 37 Gun Fire Control System (FCS) NV-1715-1291
Mk 38 Gun Fire Control System (FCS) NV-1715-1290
Mk 56 Gun Fire Control System Operation and Maintenance NV-1715-1539
Mk 68 Mod 19 Digital Upgrade (DU) Gun Fire Control System (GFCS) Maintenance NV-1715-1708
Mk 74 Mod 14 (NTU) Missile Fire Control Operation and Maintenance NV-1402-0227
Mk 74 Mod 15 (NTU) Missile Fire Control System Operation and Maintenance NV-1402-0226
Mk 74 Mod 15 Missile Fire Control System Operation and Maintenance NV-1402-0226
Multiplexed Equipment Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0996
Platform Positioning Subsystem Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0997
Poseidon Trident 1 Backfit Intermediate Level Fire Control Technician FCS 88 Mod 1/2 NV-1715-1129
Subsystem Interface Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0986
Tartar Missile Fire Control Systems (MFCS) Mk 74 Mods 4/5/8 NV-1715-0847
Terrier Weapons System Missile Fire Control System (MFCS) Mk 76 NV-1715-0443
Terrier Weapons Systems with Digital Fire Control Systems (MFCS Mk 76-6/AFCS) NV-1715-0658
Trident 1 Fire Control Technician Replacement NV-1715-1377
Trident Fire Control Technician Basic Operations NV-1715-1799
Underwater Fire Control Group Mk 111 Maintenance NV-1715-0119
Underwater Fire Control Group Mk 114 Maintenance NV-1715-0133
Underwater Fire Control, Class A NV-1715-1473

Firefighting

Aircraft Firefighting and Rescue, Class A1 NV-1728-0006

First

First Class Petty Officer Leadership NV-1717-0027

First Degree

Auxiliary Power Unit First Degree Intermediate Maintenance Repair NV-1704-0382
F404-GE-400 Engine First Degree Intermediate Maintenance NV-1704-0387
T-58 First Degree Maintenance NV-1704-0337
T-58GE-16 Intermediate Maintenance First Degree Repair, Class C1 NV-1710-0152
T-700-GE 401 Intermediate Maintenance First Degree NV-1704-0294
T56-A-10/14 First Degree Intermediate Maintenance NV-1704-0374
T56-A-14 First Degree Intermediate Maintenance NV-1704-0374

TF 30-P-414 Series Engine First Degree Intermediate Maintenance NV-1704-0363
TF-34 First Degree Intermediate Maintenance NV-1704-0295

First Term
Advanced First Term Avionics, Class A1 NV-1715-1424

Fixed
Fixed Wing Electrical/Instrument Systems Intermediate Maintenance NV-1704-0405

Flag
Public Quarter/Flag Operations NV-0401-0002

Flaghoist
Flaghoist Outstation Communications Subsystem Maintenance NV-1715-1647
Outstation Communications System (Flaghoist) Maintenance NV-1715-1879
Universal Cryptologic Processor Training (UNCRYPT) Flaghoist VAX Maintenance NV-1402-0193

Flagwriter
Yeoman Flagwriter, Class C NV-1407-0004 NV-1408-0028

Fleet
Combat Systems Electronics Administration Atlantic Fleet NV-1715-1784
Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile Navigation Maintenance NAVAIDS NV-1715-1383
Fleet Ballistic Missile Tender Navigation Maintenance Computer NV-1715-1402
Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System NV-1715-0065
Fleet Data Processing Officers Training NV-1402-0008
Fleet Digital NV-1715-1657
Fleet Electronic Support Maintenance, Class C1 NV-1715-1251
Fleet Electronics Technician NV-1715-1865
Fleet Satellite Communications Spectrum Monitor System Equipment NV-1715-1099
General Purpose Electronic Test Equipment (GPETE) Fleet Electronic Calibration Laboratory Maintenance NV-1715-1783

Flight
AN/ASH-20A Flight Recorder/Locater System Intermediate Maintenance NV-1715-1670
AN/ASM-459 Mini-SACE Flight System Test Console Intermediate Maintenance NV-1715-0948 NV-1715-1734
Basic Flight Engineer NV-1704-0444
E-2/C-2 Aircraft Familiarization (Flight Crew) NV-1704-0359
E-6 Flight Engineer Initial Qualification NV-1704-0443
E-6A Flight Deck Avionics Systems Organizational Maintenance NV-1715-1826
E-6A Flight Engineer Organizational Level Maintenance NV-1715-1824
Flight Data Input/Output, Class C1 NV-1715-1759
Flight Deck Communications Maintenance NV-1715-1601
P-3 Flight Engineer System, No. 6 NV-1704-0048
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P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance NV-1704-0380
P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance NV-1704-0380
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Flight Control
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AN/ASW-40, 41, and 42 Automatic Flight Control System Intermediate Maintenance NV-1704-0409
H-46 Automatic Flight Control Systems (AFCS) Organizational Maintenance NV-1704-0393
P-3C AN/ASW-31 Automatic Flight Control System Intermediate Maintenance NV-1715-1579
S-3A Structure, Hydraulic, and Flight Control Systems Organizational Maintenance NV-1704-0288
SH-2F Airframes, Hydraulics, and Flight Control Organizational Maintenance NV-1704-0290
SH-60B Automatic Flight Control System Organizational Maintenance NV-1715-1197

Food
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Food Service Administration NV-1729-0014
Food Service Management NV-1729-0013
Food Service Management Automated Recordskeeper NV-1729-0013
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Force
Force High Level Terminal Data Systems Maintenance Technician NV-1715-1177
Force/Ship Weapons Coordinator Tactical Training NV-2202-0121
Landing Force Ground Combat Element Communication Staff Planning NV-1715-1846
Marine Air-Ground Task Force Advanced Counterintelligence NV-1606-0088
Marine Air-Ground Task Force Intelligence (Intermediate) Chief NV-1511-0036
Marine Air-Ground Task Force Interrogation of Prisoners of War NV-1728-0036
Submarine Force Independent Duty Corpsman, Class C NV-0709-0021

Forecaster
Aerographer's Mate, Class C1, Weather Forecaster USMC (Navy/Marine Corps unique portion) NV-1304-0014
Meteorological and Oceanographic Analyst/Forecaster NV-1304-0013
Reserve Aerographer's Mate Advanced Forecaster Module D NV-1304-0020
Reserve Aerographer's Mate Forecaster Module A NV-1304-0017
Reserve Aerographer's Mate Forecaster Module B NV-1304-0018
Reserve Aerographer's Mate Forecaster Module C NV-1304-0019

Forming
Forming and Reinforcing NV-1710-0165

FORTRAN
Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C NV-1402-0110
Universal Cryptologic Processor Training (UNCRYPT) RSX/VMS FORTRAN NV-1715-1684

Frame
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Frequency
Advanced High Frequency Direction Finding (HFDF) Operations NV-1715-1871
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AN/TRQ-35(V) Tactical Frequency Management System NV-1715-1352
AN/USM-402(V) Swept Frequency Measurement (SWFT Cart) Test Set Intermediate Maintenance NV-1715-1208
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112

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High Frequency Direction Finding (HFDF) Operator NV-1715-1872
Radio Frequency Distribution Maintenance NV-1402-0109
Radio Frequency Distribution Maintenance, Class C1 NV-1402-0109
Radio Frequency Switch Matrix System Maintenance, Class C1 NV-1402-0111
Trident Exterior Communication System High Frequency/Ultra High Frequency (HF/UHF) Subsystem Basic Maintenance NV-1715-1359
Trident Exterior Communications Subsystem Very Low Frequency/Low Frequency (VLF/LF) Subsystem Basic Maintenance NV-1715-1355
Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112

Frigate
Guided Missile Frigate (FFG-7) Combat Systems Maintenance NV-1715-1036

Fuel
Aviation Fuel System, Class C2 NV-1704-0418
Aviation Fuel Systems, Class C1 NV-1704-0309
Damage Control/Fuel Control Console Operator NV-1710-0100
FFG-7 Fuel Systems, Mechanical, Class C1 NV-1704-0261
Fuel Gas Welding, Brazing, and Cutting NV-1710-0116

Fuels
Aviation Boatswain's Mate Fuels, Class A1 NV-1704-0306

Functional
General Purpose Electronic Test Equipment Functional and Operational Use NV-1715-1331

Fundamental
Fundamental Hydraulic Component Maintenance NV-1704-0272

Fundamentals
Aegis Fundamentals NV-1402-0120
Aviation Electronic Warfare Fundamentals and Organizational Level Maintenance NV-1715-1651
Aviation Electronics Warfare Fundamentals NV-1715-1146
Aviation Machinist Mate Turbojet Fundamentals, Class A1 NV-1704-0432
Aviation Machinist Mate Turboprop Fundamentals Strand, Class A1 NV-1704-0431
Digital Fundamentals NV-1402-0057

Gage
Shipboard Gage Calibration Program Standards Maintenance NV-1601-0034

Gas
DD-963 PCO/PXO Gas Turbine Engineering NV-1601-0024
DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator NV-1601-0025
Explosive Ordnance Disposal Mixed Gas Diving Underwater Breathing Apparatus NV-2202-0156
FFG-7 PCO/PXO Gas Turbine Engineering NV-1601-0023
Fuel Gas Welding, Brazing, and Cutting NV-1710-0116
Gas Turbine Electrical Maintenance (FFG-7) NV-1715-1717
Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47 NV-1715-1716
Gas Turbine Electrical Maintenance DDG-51/AOE-6, Class C NV-1710-0162
Gas Turbine Electrical Phase II, Class C, DD-963 Strand NV-1715-1716
Gas Turbine Electrical Phase II, Class C, FFG-7 Strand NV-1715-1717
Gas Turbine Electrical, Class A NV-1710-0102
Gas Turbine Fundamentals NV-1710-0097
Gas Turbine Hot Plant, Class A NV-1710-0121
Gas Turbine Mechanical, Class A NV-1710-0103
Gas Turbine Phase II, Class C NV-1715-1718
Gas Turbine System Operator (DDG-51) NV-1710-0141
Gas Turbine System Technician (GS) Advanced Hot Plant NV-1710-0146
Gas Turbine System Technician (GS) Advanced Hot Plant GL-7 Strand NV-1710-0144
Gas Turbine System Technician Advanced Operator (DD-963/DDG-993/CG-47) NV-1710-0142
Gas Turbine System Technician Advanced Operator (FFG-7) NV-1710-0143
Gas Turbine System Technician, Class A, Hot Plant NV-1710-0145
Gas Turbine Systems (Mechanical), Class C NV-1710-0143 NV-1710-0147
Gas Turbine Systems Technician Electrical, Class A1 NV-1714-0024
GTCP95-2 and GTCP95-3 Gas Turbine Engine Intermediate Maintenance NV-1710-0138
Marine Gas Turbine Inspector Training and Certification NV-1710-0161
Model 104 Gas Turbine Generator Set Maintenance NV-1703-0009
Ship's Service Gas Turbine Generator Module (Allison 501) Maintenance, Class C1 NV-1703-0009
Solar T-1020S-100B Gas Turbine Generator Set Operator and Maintenance NV-1710-0095

General
General Regulator Automatic Boiler Control Maintenance NV-1710-0072
Steam Plant Automatic Controls Maintenance (General Regulator) NV-1710-0072

Generating
Steam Generating Plant Inspector NV-1732-0001
Submarine Main Power Generating Equipment NV-1714-0053

Generator
10kW and 70kW 400 Hertz Motor Generator Combined Maintenance NV-1714-0083
400 Hertz Motor Generator Electrical System Maintenance, Class C1 NV-1714-0049
500 kW 60 Hertz Motor Generator Set Electrical Maintenance NV-1714-0046
500 kW 60 Hertz Motor Generator Set Mechanical Maintenance NV-1714-0047
6L16 Electrolytic Oxygen Generator Electrical Technician NV-1715-1840
6L16 Oxygen Generator Electrical Technician NV-1715-0918
AN/AQA-7(V) 1, 2 and 3 Sonar Computer Recorder Group and AN/ASA-76 Generator-Transmitter Group Intermediate Maintenance NV-1715-0774
AN/AQA-7A(V)10, 11, 12 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance NV-1715-1567
AN/AQA-7A(V)8 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance NV-1715-1566
DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator NV-1601-0025
Generator Regulators, Class F1 NV-1715-0901
MA2, MA3 Generator Test Stand Maintainer NV-1712-0042
MEP-105A/009A Generator Set Intermediate Maintenance NV-1704-0354
Model 104 Gas Turbine Generator Set Maintenance NV-1703-0009
Model 42G 500KW Motor Generator Maintenance NV-1704-0455
Oxygen Generator 6L16 Operator NV-1601-0018

Oxygen Generator Operator 6L16 NV-1601-0018
Oxygen Generator Operator/Mechanical Technician NV-1601-0019
Oxygen Generator Technician 6L16 NV-1715-0918
SG-791/ARR-72(V) Acoustic Sensor Signal Generator Intermediate Maintenance NV-1715-1565
Ship's Service Gas Turbine Generator Module (Allison 501) Maintenance, Class C1 NV-1703-0009
Ship's Service Turbo Generator Maintenance NV-1704-0320
Ship's Service Turbo-Generator Maintenance NV-1704-0320
Solar T-1020S-100B Gas Turbine Generator Set Operator and Maintenance NV-1710-0095
Steam Generator Maintenance NV-1732-0017
Treadwell Oxygen Generator Operation/Maintenance 6L16 NV-1601-0018

Global
NAVSTAR Global Positioning System (GPS) AN/WRN-6(V) Combined Maintenance NV-1715-1555

Governor
Governor and Regulator Maintenance NV-1710-0159

GPS
NAVSTAR Global Positioning System (GPS) AN/WRN-6(V) Combined Maintenance NV-1715-1555

Grinding
Precision Grinding NV-1736-0005
Precision Grinding and Balancing, Class C1 NV-1736-0002

Ground
AN/APS-116 Search Radar and Peculiar Ground Support Equipment Intermediate Maintenance NV-1715-1191
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer Intelligence Analyst NV-1402-0104
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System Maintenance NV-1402-0103
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System, Automatic Data Processing (ADP) Communications Operator NV-1402-0102
AN/USH-17(V-3)(V-7) Mission Recorder Set and AN/UPQ-5 Display Set with Ground Support Equipment Intermediate Maintenance NV-1715-0951
Ground Support Equipment GTC-85 Intermediate Maintenance NV-1703-0011
Ground Support Equipment Tow Tractor Charging, Starting and Ignition Systems Intermediate Maintenance NV-1704-0028
Marine Air-Ground Task Force Advanced Counterintelligence NV-1606-0088
Marine Air-Ground Task Force Counterintelligence NV-1511-0028
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 1 NV-1728-0039
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 2 NV-1728-0040
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 3 NV-1728-0041
Marine Air-Ground Task Force Intelligence (Intermediate) Chief NV-1511-0036
Marine Air-Ground Task Force Intelligence Officer NV-1511-0018
Marine Air-Ground Task Force Intelligence Officer Reserve, Phases 1 and 2 NV-1511-0029
Marine Air-Ground Task Force Intelligence Specialist Entry NV-1511-0019
Marine Air-Ground Task Force Intelligence Specialist Intermediate NV-1511-0020
Marine Air-Ground Task Force Intelligence Specialist Reserve (Phases 1 and 2) NV-1511-0030
Marine Air-Ground Task Force Interrogation of Prisoners of War NV-1728-0036

GT-3
GT-3 OK-441/ALM Controller Intermediate Maintenance NV-1715-1415

GT-3A
GT-3A Operator and Intermediate Maintenance NV-1715-1733

GTC-85
Ground Support Equipment GTC-85 Intermediate Maintenance NV-1703-0011

GTCP-100
Aviation Support Equipment GTCP-100 and Enclosures Intermediate Maintenance NV-1704-0109
Aviation Support Equipment GTCP-100 Engine Intermediate Maintenance NV-1704-0109

Guard
Navy Security Guard, Class C1 NV-1728-0021

Guidance
Guidance System Mk 3 Mod 0 Theory and Maintenance NV-1715-1456

Guided Missile
Guided Missile Frigate (FFG-7) Combat Systems Maintenance NV-1715-1036
Guided Missile Launching System Mk 10 Solid State Control System Difference NV-1715-1298
Guided Missile Launching System Mk 13 Mod 4 NV-1715-1527
Mk 25 Guided Missile Launching System (GMLS) NV-1715-1038
Mk 29 Mod 0 Guided Missile Launching System (GMLS) Maintenance NV-1715-1039
Radar Set AN/SPG-51D Gun and Guided Missile Director Mk 73 Mod 2 and Ancillary Equipment Operation and Maintenance NV-1715-1035
Tartar Guided Missile Launching System (GMLS) Mk 11 Maintenance, Class C1 NV-1715-1081
Tartar Guided Missile System Mk 13 Maintenance, Class C1 NV-1715-1082
Terrier Guided Missile Launching System (GMLS) Mk 10 Maintenance, Class C1 NV-1715-1083
Terrier Guided Missile Launching System Mk 10 55C5 Solid State Difference NV-1715-1298
Terrier Guided Missile Launching System Mk 10 SSCS NV-1715-1529
Terrier Guided Missile Launching System Mk 10 SSCS Analog Difference NV-1715-1526

Gun
16"/50 Caliber Gun System NV-1715-1293
3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35) NV-1715-0655
3"/50 Rapid Fire Twin Mount Power Drive and Gun Maintenance NV-1715-0655
3"/50 Rapid Gun Fire Twin Mount Power Drive and Gun NV-1715-1535
5"/38 Caliber Gun Operation and Maintenance, Class C NV-2202-0158
5"/38 Caliber Gun System NV-1715-1292
5"/54 Mk 45 Mod 0 Gun Mount, Class C1 NV-1715-1543
76mm/62 Caliber Mk 75 Mods 0/1 Gun Operation and Maintenance NV-1715-1179
76mm/62 Caliber Mod 0/1 Gun Operation and Maintenance NV-1715-1179
AV-88B 25mm Gun System Intermediate Maintenance NV-2202-0167
Gun 5"/54 Mk 45 Mod 0 Operational Maintenance NV-1715-1178
Gun Fire Control System Mk 86 Consoles and Data Group Equipment Maintenance NV-1402-0106
Gun Fire Control System Mk 86 Radar Group Equipment Maintenance NV-1715-1289
Gun Fire Control System Mk 86 Radar Group Maintenance NV-1715-1289
Gun Fire Control System Mk 86 System Maintenance NV-1715-1789

Gun Maintenance 5"/54 Caliber Rapid Fire Mk 42
NV-1715-0179
Gun Mount 5"/54 Mk 42 Mod 9 and 10, Class C1
NV-2202-0104
Gun Mount 5"/54 Mk 45 Maintenance, Class C1
NV-1715-1080
Gun Mount 5"/54 Mk 45 Mod 1 Operation and Maintenance
NV-1715-1297
Mk 160 Mod 4 Gun Computer System and Mk 46 Mod 0 Maintenance
NV-1402-0244
Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount
NV-1715-0147
Mk 37 Gun Fire Control System (FCS)
NV-1715-1291
Mk 38 Gun Fire Control System (FCS)
NV-1715-1290
Mk 38 Mod 0 25mm Machine Gun Operation and Maintenance
NV-2202-0159
Mk 56 Gun Fire Control System Operation and Maintenance
NV-1715-1539
Mk 68 Mod 19 Digital Upgrade (DU) Gun Fire Control System (GFCS) Maintenance
NV-1715-1708
Mk 86 Mod 9 Class C Gun Fire Control System Maintainer/Operator
NV-1715-1859
Radar Set AN/SPG-51D Gun and Guided Missile Director Mk 73 Mod 2 and Ancillary Equipment Operation and Maintenance
NV-1715-1035

Gunner's
Gunner's Mate, Class A
NV-1715-1712
Gunner's Mate, Class A Phase II
NV-1715-1079
Gunner's Mate, Class A1, Phase I
NV-1715-0652

Gunnery
Gunnery Officer
NV-1408-0036
Gunnery Petty Officer
NV-2201-0113

Gyro
Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion
NV-1715-1131
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Aids Technician Conversion
NV-1715-1132
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem
NV-2205-0002
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem Theory
NV-1715-1457
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation
NV-1715-1397
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Navigation Officer Replacement
NV-2205-0001
Electrostatically Supported Gyro Monitor (ESGM) Calibration
NV-1715-1375
NV-1715-1458
Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer
NV-1715-1157
Electrostatically Supported Gyro Monitor (ESGM) Theory and Maintenance
NV-1715-1158
Electrostatically Supported Gyro Navigator Theory and Maintenance 1
NV-1715-1802
Electrostatically Supported Gyro Navigator Theory and Maintenance 2
NV-1715-1804
Gyro Compass Technician Mk 27 Maintenance, Class C1
NV-1715-1089
Mechanical Gyro Maintenance and Repair, Class C1
NV-1715-1090
Mk 19/27 Gyro Operator
NV-1715-1223
Trident 1 Navigational Aids/Electrostatic ally Supported Gyro Monitor (ESGM) Equipment
NV-1715-1800
Trident Electrostatically Supported Gyro Monitor (ESGM) NAVAIDS Technician Replacements
NV-1715-1371
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement
NV-1715-1370

Gyrocompass
AN/WSN-2 Stabilized Gyrocompass Maintenance, Class C1
NV-1715-1067
AN/WSN-2 Stabilizer Gyrocompass Maintenance
NV-1715-1790
Mk 19 Gyrocompass Systems Maintenance
NV-1715-1141
Mk 23 Gyrocompass Systems Maintenance
NV-1715-1120
Submarine Gyrocompass Mk 19 Mod 3 Combined Maintenance
NV-1715-0062

H-1
Basic Helicopter (H-1), Class A1
NV-1704-0327

H-46
Basic Helicopter (H-46), Class A1
NV-1704-0329
H-46 Aircraft Communication, Navigation, and Identification Systems Organizational Maintenance
NV-1715-1719
H-46 Automatic Flight Control Systems (AFCS) Organizational Maintenance
NV-1704-0393
H-46 Fiberglass Rotor Blade Repair Intermediate Maintenance
NV-1704-0395
NV-1704-0396

H-46E
H-46E (SR&M) Hydraulic Systems Organizational Maintenance
NV-1704-0392
H-46E Mechanics Organizational Maintenance Course, Class C1
NV-1704-0394

H-53
Basic Helicopter (H-53), Class A1
NV-1704-0328

Hagan
Hagan Automatic Boiler Control (ABC) Console Operator
NV-1710-0160
Hagan Automatic Boiler Control (ABC) Maintenance
NV-1710-0156
Hagan Automatic Boiler Control Console (ACC) Operator
NV-1710-0078
Hagan Automatic Boiler Control Maintenance
NV-1710-0073
Steam Plant Automatic Controls Maintenance (Hagan)
NV-1710-0073

Handling
Armored Box Launcher Maintenance and All Up Round Handling
NV-1715-1541
Aviation Boatswain's Mate Aircraft Handling Advanced, Class C1
NV-1704-0416
Aviation Boatswain's Mate Aircraft Handling, Class A1
NV-1704-0417
NV-1728-0020
Aviation Boatswain's Mate Handling, Class A1
NV-1728-0020
Aviation Boatswain's Mate Handling, Class C1, (Sea Track)
NV-1704-0301
Poseidon Mk 3 Reentry System Tender Transfer and Handling
NV-2203-0143
Trident Mk 4 Reentry System Tender Transfer and Handling
NV-2202-0144

Harpoon
AN/SWG-1A Harpoon Weapon System Surface Application
NV-1402-0155
Encapsulated Harpoon Command and Launch Subsystem Combined Maintenance
NV-1715-1011
Harpoon Ship Command Launch Control Set Maintenance
NV-1715-1063
Harpoon Weapon System AN/SWG(V)/1A(V) Engagement Planner (Surface Application)
NV-1715-1538
Harpoon Weapon System AN/SWG-1(V)/1A(V) Maintenance Differences
NV-1715-1540

Head Up
AN/AVM-11 (V) Head Up Display Test Set Intermediate Maintenance (A-7E)
NV-1704-0229
AN/AVQ-7A/B Head Up Display Set Intermediate Maintenance
NV-1704-0253

Heading
A-7A/B Attitude Heading and Reference System Intermediate Maintenance
NV-1721-0006
AN/ASN-50 Attitude Heading Reference System Intermediate Maintenance
NV-1715-0534

Health
- Health Resources Management NV-1408-0038
- Radiation Health Technician, Class C NV-0705-0009

Heat
- DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator NV-1601-0025
- Diesel Engine/Waste Heat FFG-7 NV-1712-0037
- Heat Treatment of Metals NV-1724-0014
- Heat Treatment of Metals, Class C NV-1724-0001

Helicopter
- Aviation Machinist Mate Helicopter Fundamentals Strand, Class A1 NV-1704-0430
- Basic Helicopter NV-1704-0329
- Basic Helicopter (H-1), Class A1 NV-1704-0327
- Basic Helicopter (H-46), Class A1 NV-1704-0329
- Basic Helicopter (H-53), Class A1 NV-1704-0328

Helium
- Deep Sea Helium-Oxygen Diving Officer NV-1606-0009

Helo
- Landing Helo Auxiliary (LHA) Afloat Intelligence Specialist NV-1606-0070
- Landing Helo Auxiliary (LHA)/CVN Afloat Intelligence Specialist NV-1606-0070

Hemodialysis
- Hemodialysis/Apheresis Technician, Class C NV-0702-0007

HF
- AN/SRC-23 HF Transceiver AN/SRA-34 Coupler Maintenance NV-1715-1050
- DD-963 Class HF Communications Systems Maintenance NV-1715-1599

HF/VHF
- Trident Exterior Communications System (ECS), Level 2 HF/VHF NV-1715-1359

HFDF
- Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
- High Frequency Direction Finding (HFDF) Hardware Maintenance NV-1715-1256
- High Frequency Direction Finding (HFDF) Maintenance NV-1715-1256
- Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112

High
- Advanced High Frequency Direction Finding (HFDF) Operations NV-1715-1871
- Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
- Force High Level Terminal Data Systems Maintenance Technician NV-1715-1177
- High Frequency Direction Finding (HFDF) Maintenance NV-1715-1877
- High Frequency Direction Finding (HFDF) Operator NV-1715-1872
- I/R High Pressure Air Compressor Combined Maintenance NV-1601-0030
- Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112

High Frequency
- High Frequency Direction Finding (HFDF) Hardware Maintenance NV-1715-1256
- High Frequency Direction Finding (HFDF) Maintenance NV-1715-1256
- High Frequency Surface Communications System Operator NV-1715-1348
- High Frequency Systems Technician NV-1715-1340
- High Frequency Systems Technician Maintenance NV-1715-1340
- OM-55/USC Super High Frequency Satellite Communication Modular Demodulator Group Maintenance NV-1715-1346
- RT-648/ARC-94 RT-698/ARC-102 High Frequency Transmitter Intermediate Maintenance NV-1715-1724
- RT-712/ARC High Frequency Radio Intermediate Maintenance NV-1715-1625
- Trident Exterior Communication System High Frequency/Ultra High Frequency (HF/UHF) Subsystem Basic Maintenance NV-1715-1359
- Ultra High Frequency-Demand Assigned Multiple Access (DAMA) NV-1715-1347

Hoist
- Independent Variable-Depth Sonar Hoist AN/SQA-13(V) Maintenance NV-1715-1285

Horizon
- LAMPS Mk 3 Horizon Reference Set Maintenance NV-1714-0048
- Relocatable Over The Horizon Radar NV-1715-1812

Hospital
- Advanced Hospital Corpsman, Class C NV-0709-0019
- Basic Hospital Corps NV-0703-0008
- Hospital Corpsman NV-0703-0008

Hot
- Gas Turbine Hot Plant, Class A NV-1710-0121
- Gas Turbine System Technician (GS) Advanced Hot Plant NV-1710-0146
- Gas Turbine System Technician (GS) Advanced Hot Plant GL-7 Strand NV-1710-0144
- Gas Turbine System Technician, Class A, Hot Plant NV-1710-0145

Hour
- A/M26U 16000 Hour Maintenance NV-1720-0004

Housing
- Unaccompanied Personnel Housing Management, Class C1 NV-0401-0001

Hovering
- Electronic Hovering and Depth Control Combined Maintenance NV-1715-0934
- Electronic Hovering and Missile Compensation NV-1715-0934
- Hovering and Missile Compensation and Associated Position Control Units Electrical Maintenance NV-1715-1311
- SSN/SSBN Electronic Hovering and Depth Control Combined Maintenance NV-1715-0934

Hull
- Hull Technician, Class A, Phase I/II NV-1723-0013

Human
- Human Resource Management Specialist NV-0326-0003

Hybrid
- AN/USM-403 Hybrid Automatic Test Set (HATS) Operator NV-1715-1193
- AN/USM-484 Hybrid Test Station Advanced Intermediate Maintenance Activity (IMA) NV-1715-1696
- AN/USM-484 Hybrid Test System/Operator Maintainer Intermediate Maintenance NV-1715-1699

Hydraulic
- A-6 Airframes and Hydraulic Organizational Maintenance NV-1704-0356
- A-6 and Hydraulic Organizational Maintenance NV-1704-0343
- A-7E Hydraulic and Pneumatic Systems Organizational Maintenance NV-1704-0013
- A-7E Hydraulic, Pneumatic and Airframe Systems Organizational Maintenance NV-1704-0013
- Aircraft Hydraulic and Pneumatic Component Test Stand (HCT-10) and Limited Aircraft Component Intermediate Maintenance NV-1704-0361
- AV-8B Aircraft Hydraulic/Pneumatic Mechanic Integrated Organizational Maintenance NV-1704-0402
- Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance NV-1704-0353
- Basic Hydraulic Systems and Components NV-1704-0264

E-6A Airframes and Hydraulic Systems (Initial) Organizational Maintenance
NV-1704-0450
EA-6B Hydraulic/Structures Systems Integrated Organizational Maintenance
NV-1704-0411
EC-130 Airframe and Hydraulic Systems Maintenance
NV-1704-0278
Engineering Hydraulic Systems and Components Basic
NV-1704-0419
F/A-18 Aviation Hydraulic/Structure Mechanic Consolidated Organizational Maintenance
NV-1704-0386
F/A-18 Hydraulic/Structures Mechanic Organizational Maintenance
NV-1704-0385
Fundamental Hydraulic Component Maintenance
NV-1704-0272
H-46E (SR&M) Hydraulic Systems Organizational Maintenance
NV-1704-0392
P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance
NV-1704-0380
P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance
NV-1704-0380
S-3A Structure, Hydraulic, and Flight Control Systems Organizational Maintenance
NV-1704-0288
SH-3 Airframes and Hydraulic Systems Organizational Maintenance
NV-1704-0047
SH-60F/HH-60H Air Frames and Hydraulic Systems Consolidated Maintenance
NV-1704-0344
Submarine Hydraulic Combined Maintenance
NV-1704-0316
Trident Submarine Hydraulic Combined Maintenance
NV-1704-0316
Underwater Hydraulic Tools
NV-1723-0014
Underway Replenishment Mechanical and Hydraulic Component Maintenance
NV-1710-0113

Hydraulics
A-7A/B Structures, Hydraulics, and Pneumatic Systems Maintenance
NV-1704-0190
Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1
NV-1704-0440
Aviation Structural Mechanic H (Hydraulics) Intermediate Level, Class A1
NV-1704-0442
Aviation Structural Mechanic H (Hydraulics) Organizational Level, Class A1
NV-1704-0441
Aviation Structural Mechanic H (Hydraulics), Class A
NV-1704-0128
Basic Hydraulics
NV-1704-0269
Basic Hydraulics for FFG-7 Auxiliaries
NV-1704-0390
E-2/C-2 Airframe and Hydraulics Systems Integrated Organizational Maintenance
NV-1704-0369
E-6A Airframe and Hydraulics Systems Organizational Maintenance
NV-1704-0451
Electricity, Electronics, and Hydraulics, Class AP
NV-1715-0565
SH-2F Airframes, Hydraulics, and Flight Control Organizational Maintenance
NV-1704-0290
Submarine 3000 PSI Hydraulics Combined Maintenance
NV-1704-0247

Hydrogen
Carbon Dioxide Scrubber and Carbon Monoxide/Hydrogen Burner Combined Maintenance
NV-1732-0013

Hydrographic
International Hydrographic Management and Engineering
NV-1722-0017

ID-2311/A
ID-2311/A Control Display Indicator (CDI) Intermediate Maintenance
NV-1715-1623

Identification
A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance
NV-1715-0937
A-7E Communication, Navigation, Identification, and Countermeasures Organizational Maintenance
NV-1704-0250
AN/APX-72 Radar Identification System Intermediate Maintenance
NV-1715-1572
AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance
NV-1704-0399
F/A-18 Communications, Navigation, Identification, and Countermeasures Organizational Maintenance
NV-1715-1703
H-46 Aircraft Communication, Navigation, and Identification Systems Organizational Maintenance
NV-1715-1719
MH-53E Communication, Navigation, and Identification (CNI) Systems Organizational Maintenance
NV-1715-1522

Identity
AN/TPX-42A Basic Direct Altitude Identity Readout (DAIR) Maintenance, Class C1
NV-1715-1432
AN/TPX-42A(V)10 Radar Air Traffic Control Facility (RATCF) Direct Altitude Identity Readout (DAIR) Maintenance, Class G1
NV-1715-1435
AN/TPX-42A(V)5 Direct Altitude Identity Readout (DAIR) Maintenance, Class C1
NV-1715-1433
AN/TPX-42A(V)8 Carrier Air Traffic Control Center (CATCC) Direct Altitude Identity Readout (DAIR) Maintenance, Class C1
NV-1715-1434

IFF
AIMS Mk 12 IFF Maintenance
NV-1715-1588
AIMS Mk 12 IFF System Maintenance
NV-1715-1588
AIMS Mk 12 IFF System Maintenance (Electronics Technician, Class C1)
NV-1715-0812
AN/APX-72 Series IFF Transponder System Maintenance
NV-1715-0811
AN/APX-76A/B Air/Air Identify Friend or Foe (IFF) Interrogator Intermediate Maintenance
NV-1715-1677

Ignition
Ground Support Equipment Tow Tractor Charging, Starting and Ignition Systems Intermediate Maintenance
NV-1704-0028

Illustrative
Illustrative Photography, Class C1
NV-1709-0017

IMA
AN/USM-470(V)1 Aircraft Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance
NV-1715-1695
AN/USM-470(V)2 Avionic Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance
NV-1715-1693
AN/USM-484 Hybrid Test Station Advanced Intermediate Maintenance Activity (IMA)
NV-1715-1696
Intermediate Maintenance Activity (IMA) Machinery Maintenance
NV-1715-1486

Image
Modular Image Interpretation System and Analytical Photogrammetric Positioning System Maintenance
NV-1709-0024

Imagery
Imagery Interpretation
NV-1606-0085
Imagery Interpretation (IIC)
NV-1606-0074
Intelligence Specialist, Class A Imagery Interpretation
NV-1709-0039

Independent
Deep Sea Diving Independent Duty Corpsman
NV-0702-0013
Deep Sea Diving Independent Duty Corpsman, Class C
NV-0702-0013
Storekeeper Supply Afloat (Independent Duty), Class C
NV-1405-0017
Storekeepers (Independent Duty), Class C
NV-1405-0017
Submarine Force Independent Duty Corpsman
NV-0709-0021
Submarine Force Independent Duty Corpsman, Class C
NV-0709-0021
Surface Force Independent Duty Corpsman, Class C
NV-0709-0019

Indicating
Propulsion Alarm and Indicating Systems Maintenance, Class C-1 NV-1710-0137
Remote Pressure/Tank Level/Liquid Airflow Indicating Equipment Maintenance NV-1715-1305

Indicator
AN/AAS-33A Detecting and Ranging Set Receiver Group/Reciprocating Compressor/Infrared Indicator Intermediate Maintenance Course NV-1715-1411
AN/AVA-1 Vertical Display Indicator Group Intermediate Maintenance NV-1715-0159
AN/SPA-25 Series Radar Indicator, C-11300/SPA-25E Off-Centering Controller and SB-15005C/SP Switchboard Maintenance NV-1715-1586
AN/SPA-25G Radar Indicator and CV-3989/SP Signal Converter Maintenance NV-1715-1337
AN/SPA-25G Radar Indicator Group Maintenance NV-1715-1337
AN/SPA-50, AN/SPA-50B Radar Indicator Maintenance NV-1715-1096
AN/SPA-66 Radar Indicator Maintenance NV-1715-1094
Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4B (DRAI/DRT) Maintenance NV-1715-1139
Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4D NV-1715-1787
Dead Reckoning Analyzer Indicator Mk 9/Mod 4 NV-1715-1606
Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase I NV-1402-0127
Display Console OJ-326(V)/UYK and Digital Display Indicator IR-1181/UYK Maintenance Phase II NV-1402-0126
E-2A Computer Indicator Semi-Automatic Checkout Equipment (SACE) Operation and Maintenance NV-1715-0318
ID-2311/A Control Display Indicator (CDI) Intermediate Maintenance NV-1715-1623
IP-722F/AVA-1 Analog Display Indicator Intermediate Maintenance NV-1715-1420
Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Combined Maintenance NV-1715-1222
Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Maintenance NV-1715-1606
OA-3732/ASM-76 Computer Indicator Intermediate Maintenance NV-1715-0318
P-3 AN/APA-125A Indicator Group Intermediate Maintenance NV-1715-0172
P-3 AN/APA-125A Indicator Maintenance, No. 48 NV-1715-0172

Indoctrination
Aviation Maintenance Program Indoctrination, Class A2 NV-1405-0036
Direct Commission Officer Indoctrination Class PC NV-2204-0002
Limited Duty Officer (LDO) and Chief Warrant Officer (CWO) Indoctrination Training NV-1408-0029
Limited Duty Officer/Chief Warrant Officer Indoctrination, Class PC NV-1408-0029
Officer Instructor Indoctrination NV-1406-0009
Supply Indoctrination for Line Officers NV-1408-0026

Inertial
A-7 AN/ASN-90 Inertial Measurement Set Intermediate Maintenance NV-1715-0388
A-7E AN/ASM-375 Inertial Measurement System Test Set Intermediate Maintenance NV-1715-0146
Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7 NV-1715-1376
Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration NV-1715-1374
Aircraft Carrier Inertial Navigation System Operation and Maintenance NV-1402-0225
Aircraft Inertial Alignment System NV-1715-1714
Amphibious Assault Ship Aircraft Inertial Alignment System NV-1715-1714
AN/ASN-31/36/92 Inertial Platform Maintenance Technician Intermediate Maintenance NV-1715-1214
AN/ASN-90 Inertial Measurement Set Intermediate Maintenance NV-1715-0388
AN/USM-608(V) Inertial Measurement Unit Test Set Operator/Maintainer Intermediate Maintenance NV-1715-1627
AN/WSN-5 Inertial Navigation System Maintenance NV-1715-1119 NV-1715-1791
Dual Miniature Inertial Navigation System (DMINS) AN/WSN-1(V)2 Combined Maintenance NV-1715-0994
Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System NV-1715-0065
Inertial Navigation System (ESGM) AN/WSN-3A(V)2 Combined Maintenance NV-1715-1462
Inertial Platform Test Station (IPTS) Intermediate Maintenance NV-1715-1207
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Combined Maintenance NV-1715-1461
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance (Enlisted) NV-1715-0426
Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance NV-1715-1061
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration NV-1715-0202
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Control Theory NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Equipment Technician Replacement NV-1715-1393
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance I NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance II NV-1715-1002
Ship's Inertial Navigation System (SINS) Mk 2 Mod 7 Technician Replacement NV-1715-1380
Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2 NV-1715-1369
Ship's Inertial Navigation System (SINS) Theory and Analysis NV-1107-0002
Ship's Inertial Navigation System (SINS) Theory and Maintenance 2 NV-1715-1369
Ship's Navigation and Aircraft Inertial Alignment Systems Maintenance NV-1715-1061
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Calibration NV-1715-1374
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 1 NV-1715-1376
SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426
Trident 1 Ship's Inertial Navigation System (SINS) Equipment NV-1715-1379

Information
AN/USQ-64(V) Common User Digital Information Exchange System (CUDIXS) Maintenance NV-1715-0872
Combat Information Center (CIC) Officer NV-2202-0125
Combat Information Center (CIC) Procedures Advanced NV-2202-0130
Common User Digital Information Exchange System (CUDIXS) Maintenance NV-1715-0872
Joint Maritime Command Information System NV-1402-0243
Joint Tactical Information Distribution System NV-1715-1741

Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance NV-1715-1741
Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst NV-1402-0231
Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst NV-1402-0230
Ocean Surveillance Information System (OSIS) Baseline Upgrade Computer User NV-1402-0117
Ocean Surveillance Information System (OSIS) Baseline Upgrade System Management NV-1402-0119
Officer in Tactical Command Information Exchange System NV-1715-1343
Officer in Tactical Command Information Exchange System (TADIX Maintenance) NV-1715-1343
Remote Information Exchange Terminal Operator NV-1409-0009
Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance NV-1715-1230
Shipboard Information, Training, and Entertainment (SITE) NV-1715-1230
Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE) NV-1715-1230
Submarine Satellite Information Exchange Subsystem 2 (SSIXS 2) Maintenance NV-1715-1777
Submarine Satellite Information Exchange Subsystem Combined Maintenance NV-1715-1471
Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator NV-1715-1778

Infrared
AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance NV-1715-1632
AN/AAS-33A Detecting and Ranging Set Receiver Group/Reciprocating Compressor/Infrared Indicator Intermediate Maintenance Course NV-1715-1411
AN/AAS-36 Infrared Detection System Intermediate Maintenance NV-1715-1580
AN/ALQ-157(V) Infrared Countermeasures Set Intermediate Maintenance NV-1715-1729
IP-1214/AA Infrared Viewer Intermediate Maintenance NV-1715-1201

Input
Central Navigation Computer (CNC) (Input/Output) NV-1402-0026
Flight Data Input/Output, Class C1 NV-1715-1759
Magnetic Tape Input/Output Device MX-7988A and B/UYK Maintenance NV-1715-1454
Magnetic Tape Input/Output Device MX-7988A,B UYK Maintenance NV-1715-1454

Inspection
Aircraft Nondestructive Inspection Technician NV-1704-0412
Nondestructive Testing of Metals Eddy Current Inspection, Class C1 NV-1724-0008

Inspector
Construction Inspector NV-1408-0035
Diesel Engine Inspector Training and Certification NV-1712-0041
Marine Gas Turbine Inspector Training and Certification NV-1710-0161
Miniature Microminiature Electronic Repair Inspector NV-1715-1583
Nondestructive Testing of Metals Radiographic Inspector NV-1724-0012
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/Inspector NV-1724-0011
Radiographic Operator/Inspector NV-1724-0010
Shipboard Non-Tactical Automatic Data Processing (SNAP) 3-M Coordinator/Inspector NV-1402-0153
Steam Generating Plant Inspector NV-1732-0001
Ultrasonic Shearwave Inspector NV-1710-0148
Ultrasonic/Eddy Current Inspector NV-1724-0013

Instructor
Academic Instructor, Class C2 NV-1406-0032
Aircrewman Candidate Instructor NV-1406-0027
Basic Water Survival Instructor NV-0803-0005
Boiler Water/Feed Water Test and Treatment Instructor Certification NV-1601-0022
Group-Paced Instructor NV-1406-0019
Instructor NV-1406-0019
Leadership Management Education and Training (LMET) Instructor NV-1717-0021
Miniature Microminiature Instructor Certification NV-1715-1584
Miniature/Microminiature (2M) Electronics Repair Instructor Certification NV-1715-1516
Officer Instructor Indoctrination NV-1406-0009
Physical Training Instructor Class F2 NV-1406-0034
Reserve Swimmer Instructor Training, Class P NV-1406-0033
Shipboard Instructor NV-1406-0013

Instrument
A-7 Electrical and Instrument Systems Organizational Maintenance NV-1704-0079
A-7A/B Electrical and Instrument Systems Organizational Maintenance NV-1704-0079
A-7E Electrical and Instrument Systems Organizational Maintenance NV-1704-0080
Aircraft Sealed Instrument Repair Intermediate Maintenance NV-1704-0352
E-6A Electric and Instrument Systems (Initial) Organizational Maintenance NV-1704-0448
E-6A Electrical and Instrument Systems Organizational Maintenance NV-1704-0446
EA-6B Electrical and Instrument Systems Consolidated Organizational Maintenance NV-1704-0358
Fixed Wing Electrical/Instrument Systems Intermediate Maintenance NV-1704-0405
MH-53E Electrical and Instrument Systems Organizational Maintenance NV-1715-1520
RADIAC Instrument Maintenance NV-1715-0545
SH-60F/HH-60H Electrical/Instrument Systems Consolidated Maintenance NV-1704-0347
UH-1N Electrical/Instrument Systems Organizational Maintenance NV-1704-0273

Instrumentman
Instrumentman, Class A NV-1721-0018

Instruments
C-2A Electrical and Instruments Integrated Organizational Maintenance NV-1704-0365
E-2 Electrical and Instruments Integrated Organizational Maintenance NV-1704-0366
EC-130 Electrical and Instruments Maintenance NV-1715-1181
F/A-18 Electrical Instruments Consolidated Organizational Maintenance NV-1714-0068

Integrated
A-7A/B Integrated Avionics Weapons System Technician Organizational Maintenance NV-1715-0450
A-7E Integrated Weapons Systems Technician Organizational Level Maintenance NV-1704-0252
Advanced Avionics Integrated Computer System Maintenance, Class C7 NV-1715-1753
Advanced Avionics Integrated Weapons Systems Maintenance, Class C1 NV-1715-1753
AN/WIC Integrated Announcing System NV-1715-1472
AV-8B Aircraft Mechanic Integrated Organizational NV-1704-0398

C-2A (Reprocured) Avionics Systems Integrated Organizational Maintenance
NV-1704-0371
C-2A Electrical and Instruments Integrated Organizational Maintenance
NV-1704-0365
Combined Integrated Submarine Communications Antenna Subsystem Maintenance
NV-1715-1451
E-2 Electrical and Instruments Integrated Organizational Maintenance
NV-1704-0366
E-2/C-2 Airframe and Hydraulics Systems Integrated Organizational Maintenance
NV-1704-0369
E-2/C-2 Environmental Systems Integrated Organizational Maintenance
NV-1701-0016
E-2/C-2 Power Plants/Propeller and Related Systems Integrated Organizational Maintenance
NV-1704-0360
E-2C Navigation System Technician Integrated Organizational Maintenance
NV-1704-0368
E-2C Vapor Cycle System Integrated Organizational Maintenance
NV-1701-0018
EA-6B Integrated Electronic Attack System (CAREER) Organizational Maintenance
NV-1715-1613
EA-6B Integrated Electronic Countermeasures System Consolidated Organizational Maintenance
NV-1715-1613
EA-6B Integrated Electronic Countermeasures System Organizational Maintenance
NV-1715-1613
F-14D Armament Systems Integrated Organizational Maintenance
NV-1704-0372
F-14D Avionics Technician Integrated Organizational Maintenance
NV-1715-1634
F-14D Electrical Integrated Systems Organizational Maintenance
NV-1704-0364
F-14D Environmental/Escape Systems Integrated Organizational Maintenance Specialist
NV-1701-0017
F/A-18 Integrated Weapons System Technician Organizational Maintenance
NV-1715-1704
F/A-18 Power Plants and Related Systems Integrated Organizational Maintenance
NV-1704-0388
Integrated AN/SQR-19(V) Towed Array and AN/SQQ-28(V) Sonobuoy Sensors Maintenance
NV-1715-1857
Integrated Announcing System
NV-1715-1310
Integrated Announcing System AN/WIC-2B(V) Advanced Maintenance
NV-1715-1310
Integrated Circuit Components (Microelectronics) Intermediate Maintenance
NV-1715-1022
Integrated Launch and Recovery Television Surveillance
NV-1715-1229
Integrated Shipboard Maintenance Support
NV-1405-0022
Integrated Submarine Automated Broadcast Processing System
NV-1402-0132
Integrated Voice Communication System (IVCS) AN/STC-1
NV-1715-1605
Integrated Voice Communication System (IVCS) AN/STC-2(V) Aegis, Maintenance, Class C1
NV-1715-1697
Integrated Voice Communication System (IVCS) Terminal Maintenance, Class C1
NV-1715-1608
Navy Integrated Cryptologic Communications Systems
NV-1402-0249
Navy Tactical Command System Afloat Integrated Data Base Analyst
NV-1402-0204
P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance
NV-1704-0380
P-3A/B Integrated Electrical System Organizational Maintenance
NV-1704-0375
P-3C Integrated Avionics System (Update I) Organizational Maintenance
NV-1715-1025
P-3C Integrated Avionics System Data Processing Systems 1 and 2 Integrated Organizational Maintenance
NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems 1 and 2 Organizational Maintenance
NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems One and Three Organizational Maintenance
NV-1704-0348
P-3C Integrated Avionics System Sensor Station 3 Integrated Organizational Maintenance
NV-1715-1679
P-3C Integrated Avionics System Sensor Station One and Two Systems Integrated Organizational Maintenance
NV-1715-1673
P-3C Integrated Avionics System Sensor Station One and Two Systems Organizational Maintenance
NV-1715-1673
P-3C Integrated Avionics System Sensor Station Three Systems Organizational Maintenance
NV-1704-0350
P-3C Integrated Avionics System Technician
NV-1715-0329
P-3C Integrated Avionics System, Display Systems Organizational Maintenance
NV-1704-0349
P-3C Integrated Avionics Systems CP-901(V)/ASQ-114(V) Integrated Organizational Maintenance
NV-1715-1665
P-3C Integrated Avionics Systems CP-901(V)3 and 4/114(V) Organizational Maintenance
NV-1715-1665
P-3C Integrated Avionics Systems Data Processing Systems 1 and 3 Integrated Organizational Maintenance
NV-1715-1683
P-3C Integrated Avionics Systems Display Systems Integrated Organizational Maintenance
NV-1715-1682
P-3C Integrated Avionics Systems Integrated Organizational Maintenance Full Systems Troubleshooting
NV-1715-1690
P-3C Integrated Avionics Systems Navigation/Communication Systems Integrated Organizational Maintenance
NV-1715-1680
P-3C Integrated Avionics Systems Update Navigation/Communication Systems Organizational Maintenance
NV-1704-0351
P-3C Integrated Avionics Update III Integrated Organizational Maintenance
NV-1715-1664
P-3C Integrated Electrical System Integrated Organizational Maintenance
NV-1704-0377
P-3C Integrated Electrical Systems Organizational Maintenance
NV-1704-0355
P-3C MX-9360/AYA-8B LU-4 Integrated Organizational Maintenance
NV-1715-1676
P-3C Navigation/Communication Integrated Organizational Maintenance
NV-1715-1678
P-3C Sensor Station 1 and 2 AN/AQA-7(V)10 Integrated Organizational Maintenance
NV-1715-1674
P-3C Update 3 Modernized Logic Units Integrated Organizational Maintenance
NV-1715-1671
P-3C Update 3 Sensor Stations 1 and 2 Integrated Organizational Maintenance
NV-1715-1675
Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator
NV-0505-0004

Integration
Avionics Systems Integration, Class A1
NV-1715-1755

Intelligence
Advanced Operational Intelligence Analysis
NV-1511-0024
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer Intelligence Analyst
NV-1402-0104
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System Maintenance
NV-1402-0103
AN/TYQ-19(V), Marine Air-Ground Intelligence System (MAGIS) Intelligence Analysis Center (IAC) Computer System, Automatic Data Processing (ADP) Communications Operator
NV-1402-0102
Aviation Electronic Warfare Intelligence Operator
NV-1715-1689
Basic Intelligence Training
NV-1511-0016
Basic Intelligence Training Subjects
NV-1511-0016
Basic Navy Operational Intelligence
NV-1511-0027
Basic Shipboard Intelligence
NV-1606-0072
Counternarcotics Basic Intelligence
NV-1728-0042

Expeditionary Warfare Intelligence
NV-1606-0089
Intelligence Analysis System Administrator
NV-1402-0208
Intelligence Analysis System Operator
NV-1402-0209
Intelligence Center Maintenance
NV-1402-0203
Intelligence Officer Refresher
NV-1511-0031
NV-1606-0086
Intelligence Photography
NV-1709-0038
Intelligence Specialist, Class A
NV-1511-0017
Intelligence Specialist, Class A Imagery Interpretation
NV-1709-0039
Intelligence Specialist, Class A, Operational Intelligence
NV-1606-0073
Intelligence Specialist, Class A, Operational Intelligence Reserve, Phases 1 and 2
NV-1511-0032
Intelligence Specialist, Class A, Reserve (ISA-RES)
NV-1606-0075
Joint Intelligence
NV-1511-0024
Landing Helo Auxiliary (LHA) Afloat Intelligence Specialist
NV-1606-0070
Landing Helo Auxiliary (LHA) Intelligence Center (IC) Afloat Automatic Data Processing (ADP) Operator
NV-1402-0101
Landing Helo Auxiliary (LHA)/CVN Afloat Intelligence Specialist
NV-1606-0070
Marine Air-Ground Task Force Intelligence (Intermediate) Chief
NV-1511-0036
Marine Air-Ground Task Force Intelligence Officer
NV-1511-0018
Marine Air-Ground Task Force Intelligence Officer Reserve, Phases 1 and 2
NV-1511-0029
Marine Air-Ground Task Force Intelligence Specialist Entry
NV-1511-0019
Marine Air-Ground Task Force Intelligence Specialist Intermediate
NV-1511-0020
Marine Air-Ground Task Force Intelligence Specialist Reserve (Phases 1 and 2)
NV-1511-0030
Multiuser Special Intelligence Communications Maintenance
NV-1402-0113
Naval Intelligence Mid-Career
NV-1511-0033
Naval Intelligence Officer
NV-1511-0022
Naval Intelligence Processing System (NIPS) Afloat Storage and Retrieval Operator
NV-1402-0100
Naval Intelligence Processing System (NIPS) System Maintenance
NV-1402-0099
Navy Tactical Command System Afloat Intelligence Center Manager
NV-1402-0205
Navy Tactical Command System—Afloat Operational Intelligence Systems Afloat
NV-1606-0087
Operational Intelligence Analysis
NV-1511-0024
Shipboard Intelligence Analyst
NV-1511-0021
Strike Warfare Operational Intelligence (OPINTEL) Analyst
NV-1606-0067
Tactical Intelligence (TACINTEL) Communications Subsystem Maintenance
NV-1715-1247
Tactical Intelligence (TACINTEL) System Maintenance
NV-1715-1247
Tactical Intelligence Operator
NV-1402-0185

Intercept
Air Intercept Control Supervisor
NV-2202-0126
Air Intercept Controller
NV-1715-1542
Air Intercept Controller Intermediate
NV-1704-0340
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification
NV-1715-1542
Air Intercept Controller Supervisor Qualification, Class C1
NV-1704-0339
Air Intercept Controller, Conventional Qualification
NV-2202-0131

Interface
AN/BQQ-6 Group A Multipurpose Interface Unit Digital Spectrum Analyzer Advanced Maintenance
NV-1715-1318
CV-3650/AYA-6C Computer Interface Unit (CIU) Intermediate Maintenance
NV-1715-1619
Digital Control Computer Missile Interface FCS Mk 88 Mod 1
NV-1402-0147
Subsystem Interface Fire Control System (FCS) Mk 88 Mod 1
NV-1715-0986
Trident Exterior Communications Subsystem Antenna/Antenna Interface Subsystem Basic Maintenance
NV-1715-1810
Trident Exterior Communications System (ECS) Antennas/Antenna Interface System
NV-1715-1358

Interior
FFG-7 Class Ship Interior Communications (IC) Subsystems Technician
NV-1715-1075
Interior Communications Electrician Advanced Maintenance Training
NV-1715-1296
Interior Communications Electrician, Class A
NV-1714-0062
Interior Communications Electrician, Class A1
NV-1714-0062
Interior Communications Principles
NV-1715-1830
Interior Communications Surface Ship Electrical Advanced
NV-1715-1296
Submarine Interior Communications Systems
NV-1715-1549

Intermediate
Aviation Structural Mechanic H (Hydraulics) Intermediate Level, Class A1
NV-1704-0442
Avionics Intermediate, Class C7
NV-1715-1438
Intermediate Communications Signals Analysis
NV-1715-1886
Intermediate Officer Leadership
NV-1717-0030
Intermediate Surface Acoustic Analysis
NV-2202-0146
Music Intermediate, Class C
NV-1205-0003
NV-1205-0008
Music Intermediate, Class C-1
NV-1205-0003

Internal
Internal Combustion Engine and Related Systems Intermediate Maintenance
NV-1703-0019

International
Advanced International Morse Code Operator
NV-1404-0012
International Hydrographic Management and Engineering
NV-1722-0017

Interpretation
Imagery Interpretation
NV-1606-0085
Imagery Interpretation (IIC)
NV-1606-0074
Intelligence Specialist, Class A Imagery Interpretation
NV-1709-0039
Modular Image Interpretation System and Analytical Photogrammetric Positioning System Maintenance
NV-1709-0024

Interpreter
Tactical Oceanography Support Interpreter/Briefer, Class C
NV-1715-1524

Interrogation
Interrogation of Prisoners of War, Reserve, Phase 1
NV-1728-0037
Interrogation of Prisoners of War, Reserve, Phase 2
NV-1728-0038
Marine Air-Ground Task Force Interrogation of Prisoners of War
NV-1728-0036

Interrogator
AN/APX-76A/B Air/Air Identify Friend or Foe (IFF) Interrogator Intermediate Maintenance
NV-1715-1677

Inverter
5Kw Static Inverter Combined Maintenance
NV-1715-1460
Static Inverter 5Kw Combined Maintenance
NV-1715-1460

IP-1181/UYK
Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase I
NV-1402-0127

Display Console OJ-326(V)/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase III
NV-1402-0128

IP-1214/AA
IP-1214/AA Infrared Viewer Intermediate Maintenance
NV-1715-1201

Jamming
AN/ALQ-99 Jamming Transmitters and AN/ALM-107 Countermeasures Test Station Intermediate Maintenance
NV-1715-0053
AN/ALQ-99 Jamming Transmitters and AN/ALM-107B Countermeasures Test Station Intermediate Maintenance
NV-1715-0053
AN/ALQ-99 Jamming Transmitters Intermediate Maintenance
NV-1715-1615

Job
Job Oriented Basic Skills (JOBS), Class AP-1, Electronics Ratings, Strand 4
NV-0501-0003
Job Oriented Basic Skills (JOBS), Class AP-1, Mechanical Ratings, Strand 7
NV-0501-0004
Job Oriented Basic Skills (JOBS), Class AP-1, Operations Ratings, Strand 2
NV-0501-0002
Job Oriented Basic Skills (JOBS), Strand 3
NV-1409-0013
Job Oriented Basic Skills, Strand 1
NV-0501-0001
Job Oriented Basic Skills, Strand 6, Electrical, Class AP
NV-1714-0063

Joint
Joint Aviation Supply and Maintenance Material Management
NV-1405-0009
Joint Maritime Command Information System
NV-1402-0243
Joint Military Operations for College of Naval Warfare
NV-2202-0132
Joint Tactical Information Distribution System
NV-1715-1741
Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance
NV-1715-1741
Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures
NV-1401-0004

Journeyman
AN/SLQ-32A (V)3 Journeyman Maintenance
NV-1715-1639
Molder Journeyman, Class J
NV-1723-0020

Jumpmaster
Jumpmaster Naval Parachutist, Class C1
NV-1733-0004

JUMPS
Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures
NV-1401-0004

KA-6D
A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance
NV-1715-0937
A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance
NV-1704-0085

KA-99A
KA-99A Camera and Camera Test Set Intermediate Level Maintenance
NV-1721-0014

KAMEWA
KAMEWA Controllable Pitch Propeller Maintenance
NV-1710-0106

Keying
Teletype Maintenance, Class C, Low Level Keying Teletype Maintenance
NV-1715-0663

KS-153A
KS-153A Camera Intermediate Maintenance
NV-1721-0016

KS-87D
KS-87D Camera Set Intermediate Maintenance
NV-1721-0015

KY-309
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance
NV-1715-0797

KY-312
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance
NV-1715-0797

Laboratory
Dental Laboratory Technician, Maxillofacial, Class C
NV-0701-0008
Dental Laboratory Technology Advanced, Class C
NV-0701-0011
Dental Laboratory Technology Basic, Class C
NV-0701-0010
Medical Laboratory Technician Advanced, Class C
NV-0702-0012
Medical Laboratory Technician, Advanced
NV-0702-0012
Photographic Laboratory Technician, Class C1
NV-1709-0018

LAMPS
AN/SRQ-4 Light Airborne Multipurpose System (LAMPS) Mk 3 Maintenance
NV-1715-1328
LAMPS Mk 3 Horizon Reference Set Maintenance
NV-1714-0048
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance
NV-1715-1288
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance Technician
NV-1715-1287
LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician
NV-1715-1786
SH-2F Light Airborne Multipurpose Systems (LAMPS) Avionics Equipment Organizational Maintenance
NV-1715-1515
SH-60B Light Airborne Multipurpose System (LAMPS) Mk 3 Weapons System Technician Organizational Maintenance
NV-1715-1198

Landing
Landing Craft Air Cushion Crew Training (Craftmaster/Engineer)
NV-1708-0001
Landing Craft Air Cushion Engineer/Assistant Operator
NV-1722-0016
Landing Craft Air Cushion Navigator
NV-1722-0013
Landing Craft Air Cushion Operator
NV-1722-0014
Landing Craft, Air Cushion Craft Control Systems Maintenance
NV-1710-0135
Landing Craft, Air Cushion Propulsion and Lift Systems Maintenance
NV-1731-0003
Landing Force Ground Combat Element Communication Staff Planning
NV-1715-1846
Landing Helo Auxiliary (LHA) Intelligence Center (IC) Afloat Automatic Data Processing (ADP) Operator
NV-1402-0101
Marine Air Traffic Control and Landing System Advanced Operator
NV-1704-0422
Marine Air Traffic Control and Landing System Advanced Operator, Class M3
NV-1704-0422
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance
NV-1715-1762
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance, Class M3
NV-1715-1762
Marine Air Traffic Control and Landing Systems Maintenance Management, Class M3
NV-1405-0034
Marine Air Traffic Control and Landing Systems Systems Analysis, Class M3
NV-1715-1821
Optical Landing System Maintenance
NV-1715-1240
Optical Landing System Maintenance, Class C1
NV-1715-1240
Optical Landing Systems Maintenance
NV-1715-1240
Vertical and Short Take-Off Optical Landing System (VSTOL)
NV-1715-1861

Language
Computer Programming AN/UYK-7 CMS-2(Y) Compiler Language Basic
NV-1402-0163

Laser
AN/AVR-2 Laser Detecting Set (LDS) Intermediate Level Maintenance
NV-1303-0003

Lathes
- Turret Lathes and Metal Build-Up, Class C1 NV-1736-0006
- Turret Lathes and Metal Build-up, Class C1 NV-1736-0003

Launch
- Aircraft Launch and Recovery Equipment C13 Mod 1/2 Catapult NV-1704-0307
- Aircraft Launch and Recovery Equipment Maintenance Officer, Class 2 NV-1704-0308
- Aircraft Launch and Recovery Equipment Maintenance Officers NV-1704-0308
- Aircraft Launch and Recovery Equipment Maintenance Technician, Class C1 NV-1704-0425
- Aircraft Launch and Recovery Equipment Officer NV-1704-0300
- Aircraft Launch and Recovery Equipment Officer, Class C2 NV-1704-0300
- Aircraft Launch and Recovery Equipment, Class C1, C13 Mod O Track NV-1704-0305
- Aviation Boatswain's Mate (Launch and Recovery Equipment), Class A1 NV-1704-0310
- Encapsulated Harpoon Command and Launch Subsystem Combined Maintenance NV-1715-1011
- Harpoon Ship Command Launch Control Set Maintenance NV-1715-1063
- Integrated Launch and Recovery Television Surveillance NV-1715-1229
- Vertical Launch Tomahawk Weapon Control System Operator NV-2202-0160

Launched
- Ship Launched Cruise Missile Tomahawk Weapon Control System Operation and Maintenance NV-1402-0156

Launcher
- Armored Box Launcher Maintenance and All Up Round Handling NV-1715-1541
- Armored Box Launcher Tomahawk Weapons System Maintenance NV-1402-0161
- Launcher Control and Monitoring Equipment NV-1402-0083
- Launcher Control Group Advanced Circuitry NV-1715-1831
- Launcher Control Group Mk 13 Mod O Advanced NV-1715-1323
- Missile Launcher Control and Monitoring Equipment NV-1402-0083
- Missile Launcher System Mk 24 Maintenance Electrical NV-1714-0004
- Tomahawk Weapons System DD-963 Class Armored Box Launcher Configuration Operation and Maintenance NV-1402-0160
- Vertical Launcher System Mk 41 NV-1715-1407

Launching
- Armored Box Launching Tomahawk Weapon System Maintenance Differences and All Up Round Handling NV-1402-0167
- ASROC Launching Group Mk 16 NV-1715-0770
- ASROC Launching Group Mk 16 Maintenance, Class C1 NV-1715-0770
- Aviation Boatswain's Mate E Launching and Recovery Equipment, Class A1 Common Core NV-1704-0310
- Guided Missile Launching System Mk 10 Solid State Control System Difference NV-1715-1298
- Guided Missile Launching System Mk 13 Mod 4 NV-1715-1527
- Guided Missile Launching System Mk 26 Operation and Maintenance NV-1704-0315
- Mk 25 Guided Missile Launching System (GMLS) NV-1715-1038
- Mk 29 Mod 0 Guided Missile Launching System (GMLS) Maintenance NV-1715-1039
- Tartar Guided Missile Launching System (GMLS) Mk 11 Maintenance, Class C1 NV-1715-1081
- Terrier Guided Missile Launching System (GMLS) Mk 10 Maintenance, Class C1 NV-1715-1083
- Terrier Guided Missile Launching System Mk 10 55C5 Solid State Difference NV-1715-1298
- Terrier Guided Missile Launching System Mk 10 SSCS NV-1715-1529
- Terrier Guided Missile Launching System Mk 10 SSCS Analog Difference NV-1715-1526

Leader
- Leader Development NAVLEAD Instructor NV-1717-0024
- Leader Development Program (NAVLEAD) for Leading Petty Officers NV-1717-0025
- Navy Leader Development Program (NAVLEAD) for Chief Petty Officers NV-1717-0023
- Section Leader, Class C1 NV-1205-0008

Leadership
- Advanced Officer Leadership (Non-XO) NV-1717-0033
- Advanced Officer Leadership (XO) NV-1717-0032
- Basic Officer Leadership NV-1717-0026 NV-1717-0031
- Chief Petty Officer Leadership NV-1717-0028
- Chief Warrant Officer/Limited Duty Officer (CWO/LDO) Leadership NV-1717-0026
- Command Leadership NV-1717-0034
- First Class Petty Officer Leadership NV-1717-0027
- Intermediate Officer Leadership NV-1717-0030
- Leadership and Management Education and Training (LMET) for Chief Petty Officers NV-1717-0015
- Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers NV-1717-0015
- Leadership and Management Education and Training (LMET) for Leading Petty Officers NV-1717-0014
- Leadership Management Education and Training (LMET) Instructor NV-1717-0021
- Leadership Management Education and Training, Class C1 NV-1717-0021
- Second Class Petty Officer Leadership NV-1717-0029

Legal
- Coast Guard Legal Clerk NV-1728-0045
- Legal Clerk NV-1728-0028
- Legal Officer NV-1728-0029

Legalman
- Legalman NV-1728-0027
- Legalman Accession NV-1728-0027
- Mid-Career Legalman NV-1728-0044
- Reserve Legalman, Phase 1 NV-1728-0024
- Reserve Legalman, Phase 2 NV-1728-0025
- Reserve Legalman, Phase 3 NV-1728-0026
- Senior Legalman NV-1728-0030

LHA-1
- Aviation Support Equipment LHA-1 Pallet Transporter Intermediate Maintenance NV-1703-0017

Lift
- Landing Craft, Air Cushion Propulsion and Lift Systems Maintenance NV-1731-0003

Limited
- Chief Warrant Officer/Limited Duty Officer (CWO/LDO) Leadership NV-1717-0026
- Limited Duty Officer (LDO) and Chief Warrant Officer (CWO) Indoctrination Training NV-1408-0029
- Limited Duty Officer/Chief Warrant Officer Indoctrination, Class PC NV-1408-0029

Line
- AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance NV-1715-1632
- Dynalec 200/700 Line Automatic Telephone Maintenance NV-1404-0010
- Supply Indoctrination for Line Officers NV-1408-0026

Link
- AN/BSC-2 Data Link Communications System (DLCS) Equipment Combined Maintenance NV-1715-1469

AN/USQ-74 Link Data Terminal Maintenance
NV-1715-1338
AN/USQ-74 Link System Maintenance
NV-1715-1350
Data Link Communication System Maintenance Technician
NV-1402-0211
NV-1402-0212
Walleye 2 Extended Range Data Link Intermediate Maintenance
NV-1715-1032

Liquid
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector
NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/ Inspector
NV-1724-0011
Remote Pressure/Tank Level/Liquid Airflow Indicating Equipment Maintenance
NV-1715-1305

Lithium
Lithium Bromide Air Conditioning
NV-1701-0002
Lithium Bromide Air Conditioning Plant Operator
NV-1701-0002
Lithium Bromide Maintenance, Class F1
NV-1730-0010

LM2500
LM2500 Engine Changeout
NV-1703-0013

LMET
Leadership and Management Education and Training (LMET) for Chief Petty Officers
NV-1717-0015
Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers
NV-1717-0015
Leadership and Management Education and Training (LMET) for Leading Petty Officers
NV-1717-0014
Leadership Management Education and Training (LMET) Instructor
NV-1717-0021

LN-66HP
LN-66HP Radar Intermediate Maintenance
NV-1715-1202

Loader
A/S 32K-1C Weapons Loader Intermediate Maintenance
NV-1703-0018
A/S32K-1C/D Weapons Loader Intermediate Maintenance
NV-1703-0018
AERO 47A/A1 Weapons Loader Intermediate Maintenance
NV-1703-0020
AN/ASM-607(V) (Series) Computer Memory Loader-Verifier Test Set Intermediate Maintenance
NV-1402-0202

Locater
AN/ASH-20A Flight Recorder/Locater System Intermediate Maintenance
NV-1715-1670

Log
Dewey U/W Log Combined Maintenance
NV-1715-1012
Dewey Underwater Log Combined Maintenance
NV-1715-1012
Dewey Underwater Log Maintenance, Class C1
NV-1715-1042

Logic
Denison Electrical and Electronics Control Maintenance and Controls for Logic Elevators
NV-1704-0257
P-3C Update 3 Modernized Logic Units Integrated Organizational Maintenance
NV-1715-1671
P-3C Update 3 OL-337(V)1/AY Modernized Logic Units Organizational Maintenance
NV-1715-1671
Three Winch Controller Using Standard Electronic Modules (SEM) and Controls for Logic Elevators
NV-1710-0111

Logistics
Marine Aviation Logistics Computer Operator
NV-1402-0174
Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/ Analyst
NV-1402-0231
Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst
NV-1402-0230
Naval Aviation Logistics Data Analysis (NALDA)
NV-1402-0154

Loran
AN/APN-70B Loran System Intermediate Maintenance
NV-1715-0112
AN/ARN-81 Loran Intermediate Maintenance
NV-1715-0247
C-2A AN/ARN-81 Loran Intermediate Maintenance
NV-1715-0247
Introduction to the Airborne Loran AN/ ARN-81 Maintenance
NV-1715-0247
Loran AN/WRN-5 Combined Maintenance
NV-1715-0913
P-3 AN/APN-70 Loran System Intermediate Maintenance
NV-1715-0112

LOX
LOX Converter Test Stand/LOX Converter and Stock Keeping Unit (SKU) Repair
NV-1704-0437

LSD-41
LSD-41 Propulsion Operator
NV-1704-0389

Lube
Main Engine and Lube Oil Purifier
NV-1601-0027

Machine
Advanced Sewing Machine Repair, Class F1
NV-1702-0003
Machine Tool Operator
NV-1723-0015
Mk 38 Mod 0 25mm Machine Gun Operation and Maintenance
NV-2202-0159

Machinery
Auxiliary Machinery Controls, Governors and Regulators Maintenance
NV-1710-0086
Auxiliary Machinery Turbine Maintenance
NV-1704-0321
Computer Numerically Controlled Machinery, Class C
NV-1723-0025
Heavy Machinery/Metal Build-Up
NV-1736-0006
Intermediate Maintenance Activity (IMA) Machinery Maintenance
NV-1715-1486
Machinery Repairman, Class A
NV-1723-0019
Machinery Repairmen, Class A
NV-1723-0002
Machinery Systems Console Maintenance
NV-1402-0115
Mine Hunter Coastal Machinery/Ship Control System Maintenance
NV-1715-1862
Mine Hunter Coastal Machinery/Ship Control System Operators
NV-2202-0172

Machinist
Aviation Machinist Mate Common Core, Class A1
NV-1704-0429

Machinist Mate
Aviation Machinist Mate Common Core, Class A1
NV-1704-0429
Aviation Machinist Mate Helicopter Fundamentals Strand, Class A1
NV-1704-0430
Aviation Machinist Mate Turbojet Fundamentals, Class A1
NV-1704-0432
Aviation Machinist Mate Turboprop Fundamentals Strand, Class A1
NV-1704-0431

Machinist's Mate
Aviation Machinist's Mate, Class A (S-3A), Power Plant Systems
NV-1703-0014
Aviation Machinist's Mate, Class A, (A7) Power Plant System
NV-1704-0249
Aviation Machinist's Mate, Class A, (P-3) Power Plant System, Class A1
NV-1715-1026
Aviation Machinist's Mate, Class A1
NV-1704-0324
Machinist's Mate Advanced Maintenance
NV-1710-0094
Machinist's Mate Six-Year Obligator (6YO)
NV-1710-0105
Machinist's Mate Six-Year Obligator (MM 6YO) Advanced Maintenance
NV-1710-0125
Machinist's Mate Six-Year Obligator (MM 6YO) Advanced Operations
NV-1710-0126
Machinist's Mate Steam Propulsion Maintenance Supervisor
NV-1704-0319
Machinist's Mate, Class A
NV-1710-0128
NV-1710-0154
Machinist's Mate, Class A (1200 PSI)
NV-1710-0128
Machinist's Mate, Class A1 (1200 PSI)
NV-1303-0002

Machinist's Mate, Class A1 (600 PSI) NV-1303-0001
P-3 Aviation Machinist's Mate (AD) Entry Level NV-1715-1026
SH-2 Aviation Machinist's Mate Power Plant System NV-1704-0289
SH-3 Aviation Machinist's Mate, Class A Power Plant Systems NV-1704-0297

Magnetic
AN/ASA-65(V) Magnetic Compensator Group Intermediate Maintenance NV-1715-1564
AN/ASQ-10 Magnetic Anomaly Detector Intermediate Maintenance NV-1715-0178
AN/ASQ-10A Magnetic Anomaly Detecting Systems Intermediate Maintenance NV-1715-0178
AN/ASQ-81(V) Magnetic Anomaly Detection Set Intermediate Maintenance NV-1715-0559 NV-1715-1581
AT 1161 X 42640 Miltope Magnetic Tape Transport Unit Intermediate Maintenance NV-1715-1628
ATM13-II Magnetic Tape Transport Unit (MTTU) Intermediate Maintenance NV-1715-1629
Magnetic Disk File (MDF) Theory and Electrical Maintenance NV-1715-1464
Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88 NV-1715-1484
Magnetic Disk File (MDF), Theory and Electrical Maintenance FCS Mk 98 Mod 0 NV-1402-0140
Magnetic Disk File Theory and Mechanical Maintenance Fire Control System (FCS) Mk 98 Mod 0 NV-1402-0122
Magnetic Tape Input/Output Device MX-7988A and B/UYK Maintenance NV-1715-1454
Magnetic Tape Input/Output Device MX-7988A,B UYK Maintenance NV-1715-1454
Magnetic Tape Unit Advanced Training NV-1715-1000
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/Inspector NV-1724-0011
OA-9008 Magnetic Tape Control Unit and Magnetic Tape Transport NV-1715-1033
P-3 AN/ASQ-10A Magnetic Anomaly Detecting Systems Maintenance, No. 42 NV-1715-0178
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Integrated Organizational Maintenance NV-1715-1672
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Organizational Maintenance NV-1715-1672

Main
Engineman Six Year Obligor Advanced/Maintenance (Main Propulsion Strand) NV-1732-0024

Maintenance
Aegis Combat System Maintenance Manager (CG-47-64) NV-1715-1746
Aegis Combat System Maintenance Manager (CG-65-73/DDG) NV-1715-1745
Aegis Computer AN/UYK-7 Operation and Maintenance (CG-47-64) NV-1402-0121
Air Compressor and Compressed Air System Component Maintenance NV-1601-0029
Aircraft Launch and Recovery Equipment Maintenance Technician, Class C1 NV-1704-0425
AN/BPS-16 Radar and AN/SPA-25G Indicator Combined Maintenance NV-1715-1839
AN/BQQ-5E (V4) Consolidated Maintenance Conversion NV-1715-1843
AN/BQQ-5E V3/V4 Maintenance NV-1715-1836
AN/BRD-7, AN/WYQ-1(V), AN/BRQ-1(V) Combined Maintenance NV-1715-1881
AN/UYK-7 FFG-7/36/61 Class Ship Computer/Peripheral Maintenance NV-1402-0216
AN/WLR-18(V) Classic Salmon Combined Maintenance NV-1715-1883
AN/WSQ-5(V) Cluster Spectator Combined Maintenance NV-1715-1882
Aviation Maintenance Administration, Class A1 NV-1409-0011
Aviation Maintenance Program Management, Class A2 NV-1405-0035
Combat Direction Finding Maintenance NV-1715-1874
Controllers and Circuit Breakers Combined Maintenance NV-1715-1841
DD-963 Class Ship's Computer/Peripheral Subsystem Maintenance NV-1402-0215
DD-963 Computer/Peripheral Subsystem Maintenance NV-1402-0215
DD-963 Data Display Subsystem Maintenance NV-1715-1744
EA-6B Integrated Electronic Countermeasures System Organizational Maintenance NV-1715-1613
Engineering Maintenance Principles, Practices, and Administration NV-1710-0108
FFG-7/36/61 Class Ships Computer/Peripheral Subsystem Maintenance NV-1402-0216
General Mechanical Maintenance Skills NV-1704-0332
Governor and Regulator Maintenance NV-1710-0159
Intelligence Center Maintenance NV-1402-0203
LHD Exterior Communications System Maintenance NV-1402-0214
Marine Air Traffic Control and Landing Systems Maintenance Management, Class M3 NV-1405-0034
MCM Class Propulsion Operator and Maintenance NV-1712-0043
Mk 160 Mod 4 Gun Computer System and Mk 46 Mod 0 Maintenance NV-1402-0244
Naval Command Control System Ashore Maintenance Technician NV-1715-1815
Naval Tactical Command System Afloat Maintenance 10-17 NV-1715-1813
Plotting System PT-512/S Tactical Display Maintenance NV-1715-1136
Ship's Service Turbo-Generator Maintenance NV-1704-0320
Submarine Hydraulic Combined Maintenance NV-1704-0316
Subsurface Cryptologic Maintenance Pipeline NV-1715-1884

Management
Advanced Milling and Shop Management, Class C1 NV-1736-0004
Aftercare Program Management NV-0801-0010
AN/TRQ-35(V) Tactical Frequency Management System NV-1715-1352
Bachelor Quarters Management NV-0401-0001
Boiler Technician/Maintenance Management Six Year Option NV-1710-0081 NV-1710-0094
Combat Systems Maintenance Management for the CGN-38 NV-1715-1043
Commissary Store Management NV-1408-0010
Cryptologic Technician Communications—Communications Systems Operations, Control, and Management NV-1402-0065
Engineering Systems Maintenance Management NV-1704-0262
F/A-18 Enhanced Comprehensive Asset Management System Operator Organizational Maintenance NV-1402-0200
F/A-18 Stores Management System Organizational Maintenance NV-1715-1706
FFG-7 Introduction to Engineering Maintenance Management, Class C1 NV-1704-0262
Food Service Management NV-1729-0013
Food Service Management Automated Recordskeeper NV-1729-0013
Health Resources Management NV-1408-0038

Human Resource Management Specialist NV-0326-0003
International Hydrographic Management and Engineering NV-1722-0017
Introduction to Engineering Systems Maintenance and Management NV-1732-0022
Joint Aviation Supply and Maintenance Material Management NV-1405-0009
Leadership and Management Education and Training (LMET) for Chief Petty Officers NV-1717-0015
Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers NV-1717-0015
Leadership and Management Education and Training (LMET) for Leading Petty Officers NV-1717-0014
Leadership Management Education and Training (LMET) Instructor NV-1717-0021
Leadership Management Education and Training, Class C1 NV-1717-0021
Marine Air Traffic Control and Landing Systems Maintenance Management, Class M3 NV-1405-0034
Mess Management Specialist, Class A NV-1729-0011
Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst NV-1402-0231
Naval Aviation Logistics Command Management Information System Aviation System Aviation Maintenance IMA Data Base Administration/Analyst NV-1402-0230
Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management NV-1715-1779
Naval Security Group Maintenance Management System Application Analyst NV-1715-1257
Navy Exchange Management NV-1408-0023
Navy Exchange/Commissary Store Middle Management, Class C NV-1408-0027
Ocean Surveillance Information System (OSIS) Baseline Upgrade System Management NV-1402-0119
Ship's Store Afloat Resale Operation Management (ROM) System Supervisor NV-1408-0031
Ship's Store Afloat Resale Operation Management System User NV-1405-0023
Shipboard Uniform Automated Data Processing System Real Time Operations and Management NV-1402-0149
Stores Management System Integrated Organizational Level Maintenance NV-1715-1706
Supply Corps Officer Basic Qualification Aviation Management NV-1405-0012
Unaccompanied Personnel Housing Management, Class C1 NV-0401-0001

Manager
Aegis Combat System Maintenance Manager (CG-47-64) NV-1715-1746
Command and Control System Ashore Manager NV-1402-0245
Command Control Systems Ashore System Manager NV-1402-0239
Cryptologic Systems Programmer/Manager NV-1402-0180
Navy Tactical Command System Afloat Intelligence Center Manager NV-1402-0205

Map
AN/ASM-398 Projected Map Display Set (PMDS) Intermediate Maintenance NV-1715-0529
AN/ASN-99 Projected Map Display Set Intermediate Maintenance NV-1715-0162
AN/ASN-99(V) Projected Map Display Set Intermediate Maintenance NV-1715-0162

Mardan
Mardan Computer Theory and Maintenance 2 NV-1715-0448
Mardan Computer Theory and Maintenance 1 NV-1715-0447

Marine
Electronics Technician Advanced Electronics Field/ Marine Corps/Foreign, Class A1 NV-1715-1069
Marine Air Traffic Control Advanced Technician, Class C1 NV-1704-0330
Marine Air Traffic Control and Landing System Advanced Operator NV-1704-0422
Marine Air Traffic Control and Landing System Advanced Operator, Class M3 NV-1704-0422
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance NV-1715-1762
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance, Class M3 NV-1715-1762
Marine Air Traffic Control and Landing Systems Maintenance Management, Class M3 NV-1405-0034
Marine Air Traffic Control and Landing Systems Systems Analysis, Class M3 NV-1715-1821
Marine Air Traffic Control Basic Technician, Class A1 NV-1715-1818
Marine Air Traffic Control Communications Technician NV-1715-1773
Marine Air Traffic Control Communications Technician, Class C1 NV-1715-1441
Marine Air Traffic Control Navigational Aids Technician NV-1715-1774
Marine Air Traffic Control Navigational Aids Technician, Class C1 NV-1715-1442
Marine Air Traffic Control Radar Technician NV-1715-1772
Marine Air Traffic Control Radar Technician, Class C1 NV-1715-1443
Marine Air Traffic Control Technician Common Core NV-1714-0075
Marine Air Traffic Control Technician Common Core, Class M3 NV-1714-0075
Marine Air-Ground Task Force Advanced Counterintelligence NV-1606-0088
Marine Air-Ground Task Force Counterintelligence NV-1511-0028
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 1 NV-1728-0039
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 2 NV-1728-0040
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 3 NV-1728-0041
Marine Air-Ground Task Force Intelligence (Intermediate) Chief NV-1511-0036
Marine Air-Ground Task Force Intelligence Officer NV-1511-0018
Marine Air-Ground Task Force Intelligence Officer Reserve, Phases 1 and 2 NV-1511-0029
Marine Air-Ground Task Force Intelligence Specialist Entry NV-1511-0019
Marine Air-Ground Task Force Intelligence Specialist Intermediate NV-1511-0020
Marine Air-Ground Task Force Intelligence Specialist Reserve (Phases 1 and 2) NV-1511-0030
Marine Air-Ground Task Force Interrogation of Prisoners of War NV-1728-0036
Marine Aviation Operations Specialist NV-1409-0010
Marine Aviation Supply (Mechanized), Class C NV-1405-0007
Marine Aviation Supply Mechanized, Class C1 NV-1405-0030
Marine Aviation Supply Senior Enlisted NV-1405-0026
Marine Corps Aviation Supply Officer Qualification NV-1408-0024
Marine Corps Surveillance Radar, Class C1 NV-1715-0964
Marine Expeditionary Airfield Equipment NV-1710-0019
Marine Expeditionary Airfield Equipment, Class M1 NV-1710-0019
Marine Gas Turbine Inspector Training and Certification NV-1710-0161
Master Marine Diesel Mechanic Maintenance NV-1712-0026
Naval and Marine Aviation Electronic Warfare Officer NV-2202-0166
Naval and Marine Electronic Warfare Officer NV-2202-0108

US Marine Corps Remote Sensor Operator NV-1715-1300
US Marine Corps Remote Sensor Operator Reserve (Phases 1 and 2) NV-1715-1299

Maritime
Joint Maritime Command Information System NV-1402-0243
Maritime Operations Employment of Naval Forces Nonresident Seminar NV-2202-0134
Maritime Operations for College of Naval Command and Staff NV-2202-0133
Naval War Correspondence Course in Maritime Operations (Employment of Naval Forces) NV-2202-0135

Masonry
Masonry Unit Construction 2 NV-1710-0166

Master
Master at Arms, Class C NV-1728-0034
Master Cryptologic Systems Technician NV-1715-1257
Master Diver Evaluation NV-1606-0016
Master Diver Qualification NV-1606-0016
Master Marine Diesel Mechanic Maintenance NV-1712-0026
Navy Master at Arms NV-1728-0031
Navy Master at Arms, Class A NV-1728-0033

Material
Joint Aviation Supply and Maintenance Material Management NV-1405-0009
Prospective Electronics Material Officer Pacific NV-1715-1603

Materials
Advanced Composite Materials Maintenance NV-1710-0140
Training Materials Development System (TMDS) Curriculum Developer NV-1406-0022

Mathematics
Strategic Weapons System (SWS) Electronic Mathematics NV-1107-0001

Matrix
Radio Frequency Switch Matrix System Maintenance, Class C1 NV-1402-0111

Maxillofacial
Dental Laboratory Technician, Maxillofacial, Class C NV-0701-0008

Measurement
A-7 AN/ASN-90 Inertial Measurement Set Intermediate Maintenance NV-1715-0388
A-7E AN/ASM-375 Inertial Measurement System Test Set Intermediate Maintenance NV-1715-0146
AN/ASN-90 Inertial Measurement Set Intermediate Maintenance NV-1715-0388
AN/USM-402(V) Swept Frequency Measurement (SWFT Cart) Test Set Intermediate Maintenance NV-1715-1208
AN/USM-608(V) Inertial Measurement Unit Test Set Operator/Maintainer Intermediate Maintenance NV-1715-1627
Noise and Vibration Measurement NV-1721-0003
Physical Dimensional Measurement and Calibration NV-1606-0082
Precision Optical Measurement NV-1606-0081
Precision Physical and Dimensional Measurement NV-1606-0082

Measuring
AN/SRN-15 TACAN Distance Azimuth Measuring Equipment (DAME) Maintenance NV-1715-0175
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems Phases B/D NV-1715-1495

Mechanic
Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1 NV-1704-0440
Aviation Structural Mechanic H (Hydraulics) Intermediate Level, Class A1 NV-1704-0442
Aviation Structural Mechanic H (Hydraulics) Organizational Level, Class A1 NV-1704-0441
Construction Mechanic Repair Parts Storeman NV-1405-0024

Mechanical
500 kW 60 Hertz Motor Generator Set Mechanical Maintenance NV-1714-0047
Advanced Training Phase II Mechanical Maintenance NV-1710-0147
Engineering Mechanical Core NV-1704-0420
FFG-7 Auxiliary Mechanical Subsystem Technician NV-1704-0270
FFG-7 Auxiliary Mechanical Subsystem Technician, Class C1 NV-1715-1073
FFG-7 Auxiliary Mechanical System Technician NV-1704-0271 NV-1704-0391
FFG-7 Auxiliary Mechanical Systems Maintenance NV-1732-0023
FFG-7 Electrical Plant Control Console Operator Mechanical Maintenance NV-1714-0040
FFG-7 Engineering System Maintenance Management, Mechanical, Class C1 NV-1704-0260
FFG-7 Fuel Systems, Mechanical, Class C1 NV-1704-0261
Gas Turbine Mechanical, Class A NV-1710-0103
Gas Turbine Systems (Mechanical), Class C NV-1710-0143 NV-1710-0147
General Mechanical Maintenance Skills NV-1704-0332
Job Oriented Basic Skills (JOBS), Class AP-1, Mechanical Ratings, Strand 7 NV-0501-0004
Mechanical Gyro Maintenance and Repair, Class C1 NV-1715-1090
Missile Tube Support Equipment (Mechanical) NV-1710-0107
Oxygen Generator Operator/Mechanical Technician NV-1601-0019
Underway Replenishment Mechanical and Hydraulic Component Maintenance NV-1710-0113

Mechanics
H-46E Mechanics Organizational Maintenance Course, Class C1 NV-1704-0394

Medical
Aerospace Medical Technician, Class C NV-0709-0003
Medical Deep Sea Diving Technician NV-0803-0010 NV-1606-0014
Medical Department Diving Officers NV-1606-0017
Medical Laboratory Technician Advanced, Class C NV-0702-0012
Medical Laboratory Technician, Advanced NV-0702-0012
Medical Photography Technician, Class C NV-1709-0041

Medicine
Aerospace Medicine Technician NV-0709-0003
Aviation Medicine Technic NV-0709-0003
Aviation Medicine Technician, Class C NV-0709-0003
Clinical Nuclear Medicine Technician NV-0705-0008
Nuclear Submarine Medicine Technician NV-0709-0001
Preventive Medicine Technician, Class C NV-0707-0002

Memory
AN/ASM-607(V) (Series) Computer Memory Loader-Verifier Test Set Intermediate Maintenance NV-1402-0202
ASM-144 On Board Memory Tester Digital Volt Ohmmeter Intermediate Maintenance NV-1715-1210

MEP-105A/009A
MEP-105A/009A Generator Set Intermediate Maintenance NV-1704-0354

Mess
General Mess Operations NV-1729-0015
Mess Management Specialist, Class A NV-1729-0011
Private Mess Operations NV-1729-0016

Metal
Heavy Machinery/Metal Build-Up NV-1736-0006

Shielded Metal Arc Welding
NV-1710-0115
Turret Lathes and Metal Build-Up, Class C1
NV-1736-0006
Turret Lathes and Metal Build-up, Class C1
NV-1736-0003

Metals
Heat Treatment of Metals
NV-1724-0014
Heat Treatment of Metals, Class C
NV-1724-0001
Nondestructive Testing of Metals Eddy Current Inspection, Class C1
NV-1724-0008
Nondestructive Testing of Metals Radiographic Inspector
NV-1724-0012
Nondestructive Testing of Metals Radiographic Operator
NV-1724-0009
Nondestructive Testing of Metals Ultrasonic Shearwave Inspection, Class C1
NV-1724-0005
Nondestructive Testing of Metals Ultrasonic Silver Braze Inspection, Class C1
NV-1724-0004
Nondestructive Testing of Metals Ultrasonic Thickness Inspection, Class C1
NV-1724-0003
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector
NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/Inspector
NV-1724-0011

Meteorological
Meteorological and Oceanographic Analyst/Forecaster
NV-1304-0013
Meteorological Equipment Maintenance, Class C1
NV-1721-0012
Meteorological Equipment Maintenance, Class C1 USN
NV-1721-0012
Meteorological Equipment Maintenance, Class C1, USMC
NV-1304-0011

Methods
Standard Tensional Replenishment Alongside Methods (STREAM) Operator
NV-1710-0112

MH-53
MH-53 Rotors and Related Systems Organizational Maintenance
NV-1704-0334

MH-53E
MH-53E Communication, Navigation, and Identification (CNI) Systems Organizational Maintenance
NV-1715-1522
MH-53E Electrical and Instrument Systems Organizational Maintenance
NV-1715-1520
MH-53E Power Plants and Related Systems Organizational Maintenance
NV-1704-0335

Microcomponent
Surface Microcomponent Repair
NV-1715-1092

Microelectronics
Integrated Circuit Components (Microelectronics) Intermediate Maintenance
NV-1715-1022

Microminiature
Microminiature Electronics Repair
NV-1715-1330
NV-1715-1514
Miniature Microminiature Electronic Repair Inspector
NV-1715-1583
Miniature Microminiature Instructor Certification
NV-1715-1584
Miniature/Microminiature (2M) Electronics Repair Instructor Certification
NV-1715-1516
Miniature/Microminiature Electronic Repair (2M)
NV-1715-0815

Microprocessor
Computer/Microprocessor Fundamentals
NV-1402-0116
Digital Computer Microprocessor Basics
NV-1402-0097
Digital/Microprocessor Basics
NV-1715-1557

Military
Joint Military Operations for College of Naval Warfare
NV-2202-0132
Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures
NV-1401-0004

Milling
Advanced Milling and Shop Management, Class C1
NV-1736-0004

Mine
Mine Hunter Coastal Machinery/Ship Control System Maintenance
NV-1715-1862
Mine Hunter Coastal Machinery/Ship Control System Operators
NV-2202-0172
Mine Mk 60 Mod 0 Weapons Systems Technician
NV-2202-0106
Mine Warfare Engineman Basic
NV-1703-0005
Mine Warfare Packard Diesel Engineman, Class C
NV-1712-0012
Underwater Mine Mk 60 (CAPTOR)
NV-2202-0106

Mineman
Mineman Supervisory and Advanced Technical Training
NV-1715-1109
Mineman Test Set Repair and Maintenance Training
NV-1715-1108
Mineman, Class A
NV-1714-0028

Minesweeping
Minesweeping Electrician's Mate
NV-1714-0027

Mini-SACE
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance
NV-1715-1419
AN/ASM-459 Mini-SACE Flight System Test Console Intermediate Maintenance
NV-1715-0948
NV-1715-1734

Miniature
Dual Miniature Inertial Navigation System (DMINS) AN/WSN-1(V)2 Combined Maintenance
NV-1715-0994
Miniature Electronic Repair Program, Class F-1
NV-1715-0815
Miniature Electronics Repair
NV-1715-1345
NV-1715-1410
Miniature Microminiature Electronic Repair Inspector
NV-1715-1583
Miniature Microminiature Instructor Certification
NV-1715-1584
Miniature/Microminiature (2M) Electronics Repair Instructor Certification
NV-1715-1516
Miniature/Microminiature Electronic Repair (2M)
NV-1715-0815

Ministry
Religious Program Specialist, Class C (Ministry Support)
NV-1408-0037

Missile
ASROC Missile Intermediate Maintenance
NV-1715-1101
Basic Point Defense Surface Missile System
NV-1715-0778
CGN Medium Range Missile System Technician New Threat Upgrade
NV-1715-1740
CGN-36 Medium Range Missile System Technician New Threat Upgrade
NV-1715-1739
CGN/NTU Medium Range Missile System Technician
NV-1715-1740
CGN/SM-2 Medium Range Missile System Technician
NV-1715-1260
Digital Control Computer Missile Interface FCS Mk 88 Mod 1
NV-1402-0147
Electronic Hovering and Missile Compensation
NV-1715-0934
Fleet Ballistic Missile Navigation Maintenance NAVAIDS
NV-1715-1383
Fleet Ballistic Missile Tender Navigation Maintenance Computer
NV-1715-1402
Guided Missile Launcher System Mk 26
NV-1704-0315
Guided Missile Launching System Mk 26 Operation and Maintenance
NV-1704-0315
Hovering and Missile Compensation and Associated Position Control Units Electrical Maintenance
NV-1715-1311
Missile Launcher Control and Monitoring Equipment
NV-1402-0083

Missile Launcher System Mk 24 Maintenance Electrical NV-1714-0004
Missile Technician Poseidon NV-1715-1127
Missile Technician Poseidon Replacement NV-1715-1127
Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 2 Advanced Maintenance (Theory) NV-1715-0998
Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance NV-1402-0089
Missile Test and Readiness Equipment Mk 7 Mod 4 Advanced Circuitry NV-1402-0089
Missile Tube Support Equipment (Mechanical) NV-1710-0107
Mk 74 Mod 14 (NTU) Missile Fire Control Operation and Maintenance NV-1402-0227
Mk 74 Mod 15 (NTU) Missile Fire Control System Operation and Maintenance NV-1402-0226
Mk 74 Mod 15 Missile Fire Control System Operation and Maintenance NV-1402-0226
NATO Seasparrow Surface Missile System Officer NV-1715-1389
Poseidon Missile Technician Conversion (A-2/A-3 to C-3) NV-1715-0576
Ship Launched Cruise Missile Tomahawk Weapon Control System Operation and Maintenance NV-1402-0156
SUBROC Missile Mk 28 Mod 0 Test Equipment Intermediate Maintenance NV-1715-0795
SUBROC Missile Mk 28 Mod 1 Intermediate Maintenance NV-1715-0794
SUBROC Missile Mk 28 Mod 1 Test Equipment Intermediate Maintenance NV-1715-0795
Tartar CGN-36 Baseline Medium Range Missile Systems Technician NV-1715-1739
Tartar Medium Range Missile System Officer New Threat Upgrade NV-1715-1742
Tartar Missile Fire Control Systems (MFCS) Mk 74 Mods 4/5/8 NV-1715-0847
Terrier CG/DDG Standard Missile (ER) Officer Advanced NV-1715-1396
Terrier Weapons System Missile Fire Control System (MFCS) Mk 76 NV-1715-0443
Tomahawk Missile Intermediate Maintenance NV-1715-1490
Trident 1 Backfit Missile Technician (MT) Replacement NV-1715-1135
Trident 1 Missile Technician Conversion NV-1715-1378
NV-1715-1806
Trident 1 Missile Technician Replacement NV-1715-1807
Trident 2 Fire Control Technician To Missile Technician Conversion NV-1715-1835
Trident 2 Missile Technician Conversion NV-1715-1834
Trident 2 Missile Technician Replacement NV-1715-1833
Trident Missile Technician Replacement NV-1715-1170

Mission
AN/USH-17(V-3)(V-7) Mission Recorder Set and AN/UPQ-5 Display Set with Ground Support Equipment Intermediate Maintenance NV-1715-0951
E-6A Mission Avionics System Intermediate Maintenance NV-1715-1827
E-6A Mission Avionics System Organizational Maintenance NV-1715-1823
Tactical Aircraft Mission Planning System (TAMPS) System Administrator NV-1402-0207

Mk 1
Combat Control Subsystems Mk 1 Mod 0 Pipeline Maintenance NV-1402-0144
Combat Control System (CCS) Mk 1 Mod 0 Combined Maintenance NV-1715-1552
Combat Control System (CCS) Mk 1 Mod 1 Combined Maintenance NV-1402-0169
Combat Control System (CCS) Mk 1 Mod 2 Combined Maintenance NV-1402-0170
Radar Signal Processing Equipment (RSPE) Maintenance Mk 1 and Mods 1-5 NV-1715-0403
Tartar Weapons Direction System (WDS) Mk 4 WDE Mk 1 NV-1715-1391

Mk 10
Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4B (DRAI/DRT) Maintenance NV-1715-1139
Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4D NV-1715-1787
Guided Missile Launching System Mk 10 Solid State Control System Difference NV-1715-1298
Terrier Guided Missile Launching System (GMLS) Mk 10 Maintenance, Class C1 NV-1715-1083
Terrier Guided Missile Launching System Mk 10 55C5 Solid State Difference NV-1715-1298
Terrier Guided Missile Launching System Mk 10 SSCS NV-1715-1529
Terrier Guided Missile Launching System Mk 10 SSCS Analog Difference NV-1715-1526

Mk 11
Tartar Guided Missile Launching System (GMLS) Mk 11 Maintenance, Class C1 NV-1715-1081

Mk 111
Underwater Fire Control Group Mk 111 Maintenance NV-1715-0119

Mk 113
Fire Control System (FCS) Mk 113 All Models Common Equipment Combined Maintenance NV-1715-1006
Fire Control System (FCS) Mk 113 Mod 9 Mk 78 Analyzer Maintenance NV-1715-1008
Fire Control System (FCS) Mk 113 Mods 6/8 Mk 130 Digital Computer Maintenance NV-1715-1007
Mk 113 Mod 10 Digital Display Subsystem NV-1715-1013

Mk 114
Relay Transmitter Mk 60 Mod 0 Maintenance UFCG Mk 114 Mods 9-12 NV-1715-0389
Underwater Fire Control Group Mk 114 Maintenance NV-1715-0133

Mk 116
Mk 116 MOD 4 Underwater Fire Control System (FCS) Maintenance NV-1715-0268

Mk 117
Mk 117 All Mods Combined Maintenance NV-1715-0993
Mk 117 Fire Control System (FCS) Basic Operation NV-1715-1219

Mk 118
Mk 118 Fire Control System Advanced Maintenance NV-1402-0124
Mk 118 Fire Control System Basic Maintenance NV-1715-1326

Mk 12
AIMS Mk 12 IFF Maintenance NV-1715-1588
AIMS Mk 12 IFF System Maintenance NV-1715-1588
AIMS Mk 12 IFF System Maintenance (Electronics Technician, Class C1) NV-1715-0812

Mk 13
Guided Missile Launching System Mk 13 Mod 4 NV-1715-1527
Launcher Control Group Mk 13 Mod O Advanced NV-1715-1323
Tartar Guided Missile System Mk 13 Maintenance, Class C1 NV-1715-1082
Tartar Weapons Direction System Mk 13 Mod 4 NV-1715-1264

Mk 130
Fire Control System (FCS) Mk 113 Mods 6/8 Mk 130 Digital Computer Maintenance NV-1715-1007

Mk 14
AN/SYR-1 Weapons Direction System (WDS) Mk 14 Maintenance NV-1402-0062
Tartar Weapons Direction System Mk 14 Mod 5 (NTU) NV-1402-0228

WDS Mk 14 Communications Tracking Set SYR-1 Maintenance Tartar NV-1715-1266
Weapon Direction System (WDS) Mk 14 Terrier Console Operator NV-1715-1239
Weapon Direction System Mk 14 (MR) New Threat Upgrade NV-1402-0240
Weapon Direction System Mk 14 Mod 5 New Threat Upgrade NV-1402-0229
Weapon Direction System Mk 14 Mod 5 Operator NV-1402-0241
Weapon Direction System Mk 14 Mod 5 Operator (Common Program) NV-1402-0240

Mk 15
Close-In Weapon System Mk 15 Block 0/1 Difference NV-1715-1387
Close-In Weapon System Mk 15 Mod 11/14 Operation and Maintenance NV-1715-1388
Mk 15 Close-In Weapons Systems Operation and Maintenance NV-1715-1530
Special Warfare Mk 15 Underwater Breathing Apparatus NV-0709-0023

Mk 152
Mk 152 Data NV-1402-0105
Mk 152 Digital Computer NV-1715-1408
Terrier Mk 152 Computer Complex NV-1715-1382

Mk 16
ASROC Launching Group Mk 16 NV-1715-0770
ASROC Launching Group Mk 16 Maintenance, Class C1 NV-1715-0770
Diver Explosive Ordnance Disposal Mk 16 Underwater Breathing Apparatus (UBA) Mixed Gas NV-2202-0156

Mk 160
Mk 160 Mod 4 Gun Computer System and Mk 46 Mod 0 Maintenance NV-1402-0244

Mk 19
Mk 19 Gyrocompass Systems Maintenance NV-1715-1141
Submarine Gyrocompass Mk 19 Mod 3 Combined Maintenance NV-1715-0062

Mk 19/27
Mk 19/27 Advanced Theory and Maintenance NV-1715-1450
Mk 19/27 Gyro Operator NV-1715-1223

Mk 1A
Mk 1A Computer Operation and Maintenance NV-1402-0164

Mk 2
Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7 NV-1715-1376
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration NV-1715-0202
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Equipment Technician Replacement NV-1715-1393
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance II NV-1715-1002
Ship's Inertial Navigation System (SINS) Mk 2 Mod 7 Technician Replacement NV-1715-1380
Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2 NV-1715-1369
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Calibration NV-1715-1374
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 1 NV-1715-1376

Mk 23
Mk 23 Gyrocompass Systems Maintenance NV-1715-1120
Mk 23 Mod 0/1 Target Acquisition System (TAS) Maintenance NV-1715-1037
Mk 23 Target Acquisition System NV-1715-1738

Mk 24
Missile Launcher System Mk 24 Maintenance Electrical NV-1714-0004

Mk 25
Mk 25 Guided Missile Launching System (GMLS) NV-1715-1038

Mk 26
Guided Missile Launcher System Mk 26 NV-1704-0315
Guided Missile Launching System Mk 26 Operation and Maintenance NV-1704-0315

Mk 27
Gyro Compass Technician Mk 27 Maintenance, Class C1 NV-1715-1089

Mk 28
SUBROC Missile Mk 28 Mod 0 Test Equipment Intermediate Maintenance NV-1715-0795
SUBROC Missile Mk 28 Mod 1 Intermediate Maintenance NV-1715-0794
SUBROC Missile Mk 28 Mod 1 Test Equipment Intermediate Maintenance NV-1715-0795

Mk 29
Mk 29 Mod 0 Guided Missile Launching System (GMLS) Maintenance NV-1715-1039

Mk 3
AN/SRQ-4 Light Airborne Multipurpose System (LAMPS) Mk 3 Maintenance NV-1715-1328
Guidance System Mk 3 Mod 0 Theory and Maintenance NV-1715-1456
LAMPS Mk 3 Horizon Reference Set Maintenance NV-1714-0048
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance Technician NV-1715-1287
LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician NV-1715-1786
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Combined Maintenance NV-1715-1461
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance (Enlisted) NV-1715-0426
Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance NV-1715-1061
Navigation Control Console Mk 3 Mod 1/2 Maintenance NV-1715-1367
Navigation Control Console Mk 3 Mod 2 Maintenance NV-1715-1367
Poseidon Mk 3 Reentry System Tender Transfer and Handling NV-2203-0143
SH-60B Light Airborne Multipurpose System (LAMPS) Mk 3 Weapons System Technician Organizational Maintenance NV-1715-1198
SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426

Mk 35
3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35) NV-1715-0655
Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount NV-1715-0147

Mk 37
Mk 37 Gun Fire Control System (FCS) NV-1715-1291
Torpedo Mk 37 Mods 0, 2, and 3 Intermediate Maintenance NV-1715-0789
Torpedo Mk 37 Mods 0, 2, and 3 Test Equipment Intermediate Maintenance NV-1715-0788
Torpedo Mk 37 Mods 2 and 3 Intermediate Maintenance NV-1715-0789
Torpedo Mk 37 Mods 2 and 3 Test Equipment Intermediate Maintenance NV-1715-0788

Mk 38
Mk 38 Gun Fire Control System (FCS) NV-1715-1290
Mk 38 Mod 0 25mm Machine Gun Operation and Maintenance NV-2202-0159

Mk 4
Tartar Weapons Direction System (WDS) Mk 4 WDE Mk 1 NV-1715-1391
Trident Mk 4 Reentry System Tender Transfer and Handling NV-2202-0144

Mk 41
Vertical Launcher System Mk 41 NV-1715-1407

Mk 42
- Gun Maintenance 5"/54 Caliber Rapid Fire Mk 42 NV-1715-0179
- Gun Mount 5"/54 Mk 42 Mod 9 and 10, Class C1 NV-2202-0104

Mk 45
- 5"/54 Mk 45 Mod 0 Gun Mount, Class C1 NV-1715-1543
- Gun 5"/54 Mk 45 Mod 0 Operational Maintenance NV-1715-1178
- Gun Mount 5"/54 Mk 45 Maintenance, Class C1 NV-1715-1080
- Gun Mount 5"/54 Mk 45 Mod 1 Operation and Maintenance NV-1715-1297

Mk 46
- Mk 160 Mod 4 Gun Computer System and Mk 46 Mod 0 Maintenance NV-1402-0244
- Torpedo Mk 46 Mod 5 Intermediate Maintenance NV-1715-1103
- Torpedo Mk 46 Mod 5 Test Equipment Intermediate Maintenance NV-1715-1104

Mk 47
- Mk 47 Computer Operational Maintenance NV-1715-1536

Mk 48
- Mk 48 Torpedo Basic Maintenance NV-1715-1558
- Torpedo Mk 48 Advanced Capability (ADCAP) Intermediate Maintenance NV-1715-1493
- Torpedo Mk 48 Intermediate Maintenance Activity Supervisor NV-1715-1491
- Torpedo Mk 48 Mods 1 and 3 Intermediate Maintenance NV-1715-1105
- Torpedo Mk 48 Mods 1 and 3 Test Equipment Intermediate Maintenance NV-1715-1106

Mk 56
- Mk 56 Gun Fire Control System Operation and Maintenance NV-1715-1539

Mk 6
- Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4B (DRAI/DRT) Maintenance NV-1715-1139
- Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4D NV-1715-1787
- Dead Reckoning Tracer Mk 6/Mod 4B (DRAI/DRT) Maintenance, Class C1 NV-1715-1606

Mk 60
- Mine Mk 60 Mod 0 Weapons Systems Technician NV-2202-0106
- Relay Transmitter Mk 60 Maintenance NV-1715-0389
- Relay Transmitter Mk 60 Mod 0 Maintenance UFCG Mk 114 Mods 9-12 NV-1715-0389
- Underwater Mine Mk 60 (CAPTOR) NV-2202-0106

Mk 63
- Mk 63 Torpedo Tube Basic Maintenance NV-1715-1225

Mk 65
- Analog-to-Digital Converter Mk 65 Mods 1 and 2 Maintenance NV-1715-1452

Mk 68
- Mk 68 Mod 19 Digital Upgrade (DU) Gun Fire Control System (GFCS) Maintenance NV-1715-1708

Mk 7
- Aegis Weapon System Mk 7 Operation and Maintenance (CG-47-64) NV-1715-1302
- Aegis Weapon System Mk 7 Operation and Maintenance (CG-65-73/DDG) NV-1715-1751
- Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 2 Advanced Maintenance (Theory) NV-1715-0998
- Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance NV-1402-0089
- Missile Test and Readiness Equipment Mk 7 Mod 4 Advanced Circuitry NV-1402-0089

Mk 73
- Radar Set AN/SPG-51D Gun and Guided Missile Director Mk 73 Mod 2 and Ancillary Equipment Operation and Maintenance NV-1715-1035

Mk 74
- Mk 74 Mod 14 (NTU) Missile Fire Control Operation and Maintenance NV-1402-0227
- Mk 74 Mod 15 (NTU) Missile Fire Control System Operation and Maintenance NV-1402-0226
- Mk 74 Mod 15 Missile Fire Control System Operation and Maintenance NV-1402-0226
- Tartar Missile Fire Control Systems (MFCS) Mk 74 Mods 4/5/8 NV-1715-0847
- Tartar Weapons System Mk 74 Mod 6 NV-1715-1384

Mk 75
- 76mm/62 Caliber Mk 75 Mods 0/1 Gun Operation and Maintenance NV-1715-1179

Mk 76
- Terrier Weapons System Missile Fire Control System (MFCS) Mk 76 NV-1715-0443
- Terrier Weapons System Mk 76 Mod 8 NV-1715-0658
- Terrier Weapons System Mk 76 Mod 9 NV-1715-0443
- Terrier Weapons Systems with Digital Fire Control Systems (MFCS Mk 76-6/AFCS) NV-1715-0658

Mk 78
- Fire Control System (FCS) Mk 113 Mod 9 Mk 78 Analyzer Maintenance NV-1715-1008

Mk 86
- Gun Fire Control System Mk 86 Radar Group Equipment Maintenance NV-1715-1289
- Gun Fire Control System Mk 86 Radar Group Maintenance NV-1715-1289
- Gun Fire Control System Mk 86 System Maintenance NV-1715-1789
- Mk 86 Mod 9 Class C Gun Fire Control System Maintainer/Operator NV-1715-1859

Mk 88
- Digital Control Computer Missile Interface FCS Mk 88 Mod 1 NV-1402-0147
- Digital Control Computer Peripheral Equipment Advanced Maintenance Fire Control System Mk 88 Mod 1 NV-1402-0143
- Fire Control System (FCS) Mk 88 Mod 1 Digital Control Computer NV-1715-0353
- Fire Control System Mk 88 Mod 2 Advanced Technician NV-1715-1399
- Fire Control System Technician Mk 88 Mod 1 Replacement NV-1715-1385
- Fire Control Technician Mk 88 Intermediate Level Maintenance NV-1715-1129
- Fire Control Technician Mk 88 Mod 2 Replacement NV-1715-1128
- Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88 NV-1715-1484
- Multiplexed Equipment Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0996
- Platform Positioning Subsystem Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0997
- Subsystem Interface Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0986

Mk 9
- Dead Reckoning Analyzer Indicator Mk 9/Mod 4 NV-1715-1606
- Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Combined Maintenance NV-1715-1222
- Mk 9 Mod 4 Dead Reckoning Analyzer Indicator (DRAI) Maintenance NV-1715-1606

Mk 92
- Fire Control System (FCS) Mk 92 Mod 2 Maintenance NV-1715-1087
- Fire Control System Mk 92 Mod 1/2 Maintenance NV-1715-1534
- Fire Control System Mk 92 Mod 2 Operation and Maintenance NV-1715-1534

Mk 98
- Fire Control System Mk 98 Mod 0 Advanced Technician NV-1402-0137
- Fire Control System Mk 98 Mod 0 Maintenance Procedures NV-1715-1321
- Fire Control System Mk 98 Mod O Advanced Operations NV-1715-1322

Fire Control System Mk 98 Mod O Rev A Advanced Operations
NV-1715-1322
Magnetic Disk File (MDF), Theory and Electrical Maintenance FCS Mk 98 Mod 0
NV-1402-0140
Magnetic Disk File Theory and Mechanical Maintenance Fire Control System (FCS) Mk 98 Mod 0
NV-1402-0122

Mk NC-2
Mk NC-2 Mod 2/2A Plotting System Maintenance
NV-1715-1339
Plotting System Mk NC-2 Mod 0 Maintenance
NV-1715-0082
Plotting System Mk NC-2 Mod 1A Maintenance
NV-1715-0075

MMG-1A
MMG-1A Mobile Electric Power Plant Intermediate Maintenance
NV-1714-0038

Mobile
Aviation Support Equipment Mobile Air Conditioning Intermediate Maintenance
NV-1701-0008
Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance
NV-1715-0698
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance
NV-1715-0698
Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance
NV-1715-0700
MMG-1A Mobile Electric Power Plant Intermediate Maintenance
NV-1714-0038
Mobile System Technical Data Facility Operator
NV-1402-0179
Mobile Systems Technical Data Facility/SIGINT Classification of Recognized Emitters Maintenance
NV-1402-0181
NC-8A/-1 Mobile Electric Power Plant Intermediate Maintenance
NV-1732-0021

Mobilization
Reserve Mobilization
NV-1405-0037

Model 104
Model 104 Gas Turbine Generator Set Maintenance
NV-1703-0009

Model 28
Model 28 Automatic Send Receive Teletype Maintenance
NV-1715-0662

Modular
AN/SYQ-7(V)3 Naval Modular Automated Communications System
NV-0505-0003
AN/SYQ-7(V)3 Naval Modular Automated Communications Systems (NAVMACS V3)
NV-1715-1775
AN/SYQ-7(V)3 Naval Modular Automated Communications Systems NAVMACS V3 Maintenance
NV-1715-0875
AN/SYQ-7(V)5 Naval Modular Automated Communications System (NAVMACS V5) Operator
NV-1715-1595
AN/SYQ-7(V)5 Naval Modular Automated Communications System Operator
NV-1715-1595
AN/SYQ-7(V)5 Naval Modular Automated Communications Systems (NAVMACS V5) Maintenance
NV-1715-1781
Naval Modular Automated Communications System (NAVMACS) A+ Maintenance
NV-1715-0875
Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management
NV-1715-1779
OM-55/USC Super High Frequency Satellite Communication Modular Demodulator Group Maintenance
NV-1715-1346

Module
AN/ASM-33B AN/ASM-122 Portable Module Test (PMT) Intermediate Maintenance
NV-1715-1211
OJ-621A/AWM-23(V) (AWG-9) Module Test Station (MTS) Intermediate Maintenance
NV-1715-1633

Molder
Molder Journeyman, Class J
NV-1723-0020
Molder, Class A
NV-1723-0023
Molder, Class A1
NV-1723-0023
Patternmaker/Molder, Class J
NV-1723-0022

Monitor
Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion
NV-1715-1131
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Aids Technician Conversion
NV-1715-1132
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem
NV-2205-0002
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem Theory
NV-1715-1457
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation
NV-1715-1397
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Navigation Officer Replacement
NV-2205-0001
Electrostatically Supported Gyro Monitor (ESGM) Calibration
NV-1715-1375
NV-1715-1458
Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer
NV-1715-1157
Electrostatically Supported Gyro Monitor (ESGM) Theory and Maintenance
NV-1715-1158
Fleet Satellite Communications Spectrum Monitor System Equipment
NV-1715-1099
Trident I Navigational Aids/Electrostatically Supported Gyro Monitor (ESGM) Equipment
NV-1715-1800
Trident Electrostatically Supported Gyro Monitor (ESGM) NAVAIDS Technician Replacements
NV-1715-1371
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement
NV-1715-1370
Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance
NV-1715-1354

Monitoring
Atmosphere Analyzer Central Atmosphere Monitoring System (CAMS) Mk 1
NV-1715-0496
Common Alarm, Temperature Monitoring and Salinity Systems Equipment Maintenance
NV-1715-1306
Communications Quality Monitoring System
NV-1715-1611
DD-963 Facilities Control Quality Monitoring Operator
NV-1715-1596
Launcher Control and Monitoring Equipment
NV-1402-0083
Missile Launcher Control and Monitoring Equipment
NV-1402-0083
Noise Reduction/Structure Borne Monitoring (Noise and Vibration Monitoring System (NVMS))
NV-1721-0011
Trident Exterior Communications Subsystem Control Monitoring and Testing Subsystem Maintenance
NV-1715-1354

Morse
Advanced International Morse Code Operator
NV-1404-0012

Motor
10kW and 70kW 400 Hertz Motor Generator Combined Maintenance
NV-1714-0083
400 Hertz Motor Generator Electrical System Maintenance, Class C1
NV-1714-0049
500 kW 60 Hertz Motor Generator Set Electrical Maintenance
NV-1714-0046
500 kW 60 Hertz Motor Generator Set Mechanical Maintenance
NV-1714-0047
Electric Motor Rewind, Class C
NV-1714-0016
Electrical Motor Rewind
NV-1714-0076
Model 42G 500KW Motor Generator Maintenance
NV-1704-0455

Outboard Motor Overhaul
NV-1731-0002

Mount

3"/50 Caliber Rapid Fire Twin Mount Gun Maintenance (Mk 35)
NV-1715-0655

3"/50 Rapid Fire Twin Mount Power Drive and Gun Maintenance
NV-1715-0655

Gun Mount 5"/54 Mk 42 Mod 9 and 10, Class C1
NV-2202-0104

Gun Mount 5"/54 Mk 45 Maintenance, Class C1
NV-1715-1080

Gun Mount 5"/54 Mk 45 Mod 1 Operation and Maintenance
NV-1715-1297

Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount
NV-1715-0147

MTRE

Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 2 Advanced Maintenance (Theory)
NV-1715-0998

Multiple

Ultra High Frequency-Demand Assigned Multiple Access (DAMA)
NV-1715-1347

Multiplex

AN/USQ-82(V) Data Multiplex System Maintenance
NV-1715-1715

Data Multiplex System
NV-1715-1715

Multipurpose

SH-2F Light Airborne Multipurpose Systems (LAMPS) Avionics Equipment Organizational Maintenance
NV-1715-1515

Multiuser

Multiuser Special Intelligence Communications Maintenance
NV-1402-0113

Munitions

Aviation Ordnance Munitions Technician Intermediate Maintenance
NV-2202-0168

Music

Music Advanced, Class C7
NV-1205-0002

Music Basic
NV-1205-0009

Music Intermediate, Class C
NV-1205-0003
NV-1205-0008

Music Intermediate, Class C-1
NV-1205-0003

Music Preparatory, Class AP
NV-1205-0007

Music, Class A, Basic
NV-1205-0001

Music, Class B, Advanced
NV-1205-0002

Music, Class C, Refresher
NV-1205-0003

Naval School of Music, Class A, Basic
NV-1205-0001

Naval School of Music, Class C, Refresher
NV-1205-0003

Narrowband

Narrowband Secure Voice Stand Alone Maintenance
NV-1715-1100

Narrowband System Operator (NBS OPS), Class C
NV-1715-1245

TSEC/KY-65A/75A AN/USC-43 Advanced Narrowband Digital Voice Terminal Limited Maintenance
NV-1715-1342

NASAP

Navy Alcohol/Drug Safety Action Program (NASAP/NDSAP)
NV-0799-0007

National

National Security Decision Making for College of Naval Command and Staff
NV-1511-0015

National Security Decision Making Nonresident Seminar
NV-1511-0026

Naval War College Correspondence Course in National Security Decision Making
NV-1511-0010

NATO

NATO Seasparrow 7M Difference Maintenance
NV-1715-1403

NATO Seasparrow 7M Maintenance
NV-1715-1394

NATO Seasparrow Surface Missile System Officer
NV-1715-1389

NAVAIDS

Fleet Ballistic Missile Navigation Maintenance NAVAIDS
NV-1715-1383

NAVAIDS Equipment Technician Replacement
NV-1715-1404

Trident Electrostatically Supported Gyro Monitor (ESGM) NAVAIDS Technician Replacements
NV-1715-1371

Naval

Naval and Marine Electronic Warfare Officer
NV-2202-0108

Naval Gunfire Liaison Officer
NV-1601-0039

Naval Science Institute
NV-2202-0109

Naval Staff College
NV-1511-0034

Navigation

A-6E (M1-M120 and 158041-1595079) and KA-6D Aircraft Communication, Navigation, Identification (CNI) and Intercommunication and Related Systems Organizational Maintenance
NV-1715-0937

A-7 AN/APN-190 Doppler Radar Navigation System Intermediate Maintenance
NV-1715-0200

A-7E Communication, Navigation, Identification, and Countermeasures Organizational Maintenance
NV-1704-0250

Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7
NV-1715-1376

Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration
NV-1715-1374

Air Navigation by Correspondence
NV-1606-0071

Aircraft Carrier Inertial Navigation System Operation and Maintenance
NV-1402-0225

AN/APN-182A(V) Radar Navigation Set Intermediate Maintenance
NV-1715-1582

AN/APN-190(V) Doppler Radar Navigation System Intermediate Maintenance
NV-1715-0200

AN/ARN-52(V), AN/ARN-105 and AN/ARN-86 TACAN Navigation Sets Intermediate Maintenance
NV-1715-1014

AN/AYK-2 Navigation Computer Group and OA-1768A Plotter Board Group Intermediate Maintenance
NV-1715-0227

AN/SRN-19(V)2 Radio Navigation Set Maintenance
NV-1715-1341

AN/SRN-9/18 Satellite Radio Navigation Sets Combined Maintenance
NV-1715-1098

AN/WRN-5A Satellite Navigation Set Maintenance
NV-1715-1593

AN/WSN-5 Inertial Navigation System Maintenance
NV-1715-1119
NV-1715-1791

AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance
NV-1704-0399

AV-8B Aircraft Communication/Navigation/Weapons System Specialist Organizational Maintenance
NV-1704-0407

Central Navigation Computer (CNC) (Input/Output)
NV-1402-0026

Central Navigation Computer (CNC) Technician
NV-1715-1402

Central Navigation Computer (CNC) Technician Replacement
NV-1715-1392

Dual Miniature Inertial Navigation System (DMINS) AN/WSN-1(V)2 Combined Maintenance
NV-1715-0994

E-2C Navigation System Technician Integrated Organizational Maintenance
NV-1704-0368

EA-6B I CAP 2 Communication, Navigation, and Radar Organizational Maintenance
NV-1704-0357

Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance
NV-1715-0065

Electrostatically Supported Gyro Monitor (ESGM) Backfit Central Navigation Computer Technician Conversion
NV-1715-1131

Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Aids Technician Conversion
NV-1715-1132

Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem NV-2205-0002
Electrostatically Supported Gyro Monitor (ESGM) Backfit Navigation Subsystem Theory NV-1715-1457
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation NV-1715-1397
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Navigation Officer Replacement NV-2205-0001
F/A-18 Communications, Navigation, Identification, and Countermeasures Organizational Maintenance NV-1715-1703
FFG-7 Class Navigation Electronics Subsystem Maintenance NV-1715-1590
Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
Fleet Ballistic Missile Navigation Maintenance NAVAIDS NV-1715-1383
Fleet Ballistic Missile Tender Navigation Maintenance Computer NV-1715-1402
Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System NV-1715-0065
H-46 Aircraft Communication, Navigation, and Identification Systems Organizational Maintenance NV-1715-1719
Inertial Navigation System (ESGM) AN/WSN-3A(V)2 Combined Maintenance NV-1715-1462
Intermediate Level Maintenance Navigation Technician NV-1723-0010
MH-53E Communication, Navigation, and Identification (CNI) Systems Organizational Maintenance NV-1715-1522
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Combined Maintenance NV-1715-1461
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance (Enlisted) NV-1715-0426
Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance NV-1715-1061
Navigation Control Console Mk 3 Mod 1/2 Maintenance NV-1715-1367
Navigation Control Console Mk 3 Mod 2 Maintenance NV-1715-1367
Navigation Officer (Shipboard) and Celestial, Class C2 NV-2202-0107
Navigation Satellite Receiver AN/WRN-5 Combined Maintenance NV-1715-0913
Navigation Technician 594/688 Class Pipeline NV-1715-1478
Navigation Technician 637/688 Class Pipeline NV-1715-1479
Navigation Technician Intermediate Level Maintenance NV-1723-0010
Navigation Technician Type 2 637 Class Pipeline NV-1715-1487
Navigation Technician Type I SSN-637 NV-1715-0979
P-3C Communication/Navigation Organizational Maintenance NV-1715-0533
P-3C Integrated Avionics Systems Navigation/Communication Systems Integrated Organizational Maintenance NV-1715-1680
P-3C Integrated Avionics Systems Update Navigation/Communication Systems Organizational Maintenance NV-1704-0351
P-3C Navigation/Communication Integrated Organizational Maintenance NV-1715-1678
P-3C Navigation/Communication Organizational Maintenance NV-1715-1577
Radio Navigation Set AN/BRN-3B Data Processor Maintenance NV-1402-0142
Radio Navigation Set AN/BRN-3B Maintenance NV-1715-1455
Replacement Navigation Tender Technician NV-1715-1123
Satellite Navigation System AN/WRN-5 NV-1715-0913
SH-3 Communications/Navigation Systems Organizational Maintenance NV-1715-1195
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration NV-1715-0202
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Control Theory NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Equipment Technician Replacement NV-1715-1393
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance I NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance II NV-1715-1002
Ship's Inertial Navigation System (SINS) Mk 2 Mod 7 Technician Replacement NV-1715-1380
Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2 NV-1715-1369
Ship's Inertial Navigation System (SINS) Theory and Analysis NV-1107-0002
Ship's Inertial Navigation System (SINS) Theory and Maintenance 2 NV-1715-1369
Ship's Navigation and Aircraft Inertial Alignment Systems Maintenance NV-1715-1061
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Calibration NV-1715-1374
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 1 NV-1715-1376
SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426
Trident 1 Central Navigation Computer (CNC) Equipment Replacement NV-1715-1373
Trident 1 Navigation Subsystems NV-1715-1372
Trident 1 Ship's Inertial Navigation System (SINS) Equipment NV-1715-1379
Trident Central Navigation Computer Technician Replacement NV-1715-1381
Trident Common Navigation Technician Conversion NV-1715-1797
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement NV-1715-1370
Trident Navigation Subsystem Theory NV-1715-1366
UH-1N Communication/Navigation Systems Organizational Maintenance NV-1704-0274

Navigational
AN/ASN-39/39A and AN/ASN-41 Navigational Computer Systems Intermediate Maintenance NV-1715-1204
E-2B Navigational Systems Organizational Maintenance NV-1715-1215
Marine Air Traffic Control Navigational Aids Technician NV-1715-1774
Marine Air Traffic Control Navigational Aids Technician, Class C1 NV-1715-1442

Navigator
EA-3B Navigator Electronic Warfare NV-1606-0083
Electrostatically Supported Gyro Navigator Theory and Maintenance 1 NV-1715-1802
Electrostatically Supported Gyro Navigator Theory and Maintenance 2 NV-1715-1804
Landing Craft Air Cushion Navigator NV-1722-0013
VQ/VAQ/VMAQ Pilot and EA-3B Navigator Electronic Warfare (EW) Officer NV-1606-0066

NAVLEAD
Leader Development NAVLEAD Instructor NV-1717-0024
Leader Development Program (NAVLEAD) for Leading Petty Officers NV-1717-0025
Navy Leader Development Program (NAVLEAD) for Chief Petty Officers NV-1717-0023

NAVMACS
AN/SYQ-7(V)3 Naval Modular Automated Communications Systems (NAVMACS V3) NV-1715-1775
AN/SYQ-7(V)3 Naval Modular Automated Communications Systems NAVMACS V3 Maintenance NV-1715-0875

AN/SYQ-7(V)5 Naval Modular Automated Communications System (NAVMACS V5) Operator NV-1715-1595
AN/SYQ-7(V)5 Naval Modular Automated Communications Systems (NAVMACS V5) Maintenance NV-1715-1781
Naval Modular Automated Communications System (NAVMACS) A+ Maintenance NV-1715-0875
Naval Modular Automated Communications System (NAVMACS) V5 Data Base Management NV-1715-1779

NAVSTAR
NAVSTAR Global Positioning System (GPS) AN/WRN-6(V) Combined Maintenance NV-1715-1555

Navy
Elevated Causeway Navy Lighterage NV-1601-0037

NC-10B
Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698

NC-10B/C
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698

NC-2A
Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance NV-1715-0700

NC-8A/-1
NC-8A/-1 Mobile Electric Power Plant Intermediate Maintenance NV-1732-0021

NCO
Communications Noncommissioned Officer (NCO) NV-1715-1845

NDSAP
Navy Alcohol/Drug Safety Action Program (NASAP/NDSAP) NV-0799-0007

Network
Network Security and Vulnerabilities Technician NV-1402-0251

Night
AN/ASM-686 Night Attack Intermediate Avionics Test Set Operator/Maintenance NV-1402-0201

Nitrogen
A/M26U-5 Expeditionary Oxygen/Nitrogen System (EONS) Intermediate Maintenance Activity NV-1720-0005

Noise
Noise and Vibration Measurement NV-1721-0003
Noise Reduction/Structure Borne Monitoring (Noise and Vibration Monitoring System (NVMS)) NV-1721-0011

Non-designated
SH-60F/HH-60H Non-designated Airman NV-1704-0346

Non-Morse
Advanced Non-Morse Operator NV-1715-1660 NV-1715-1661
Advanced Non-Morse Operator Preparatory NV-1715-1662
Basic Non-Morse Operator NV-1715-1243
Intermediate Non-Morse Analyst NV-1715-1248
Senior Non-Morse Analysis NV-1715-1258

Non-Nuclear
Non-Nuclear Component Welder NV-1710-0150
Non-Nuclear Component Welding NV-1710-0051

Non-Tactical
AN/UYK-65(V) Shipboard Non-Tactical Automated Data Processing (SNAP-1) Maintenance System NV-1402-0219
Shipboard Non-Tactical Automated Data Processing (SNAP 2) Ship System Coordinator NV-1715-1547
Shipboard Non-Tactical Automated Data Processing (SNAP 3) System Administration NV-1402-0232
Shipboard Non-Tactical Automated Data Processing (SNAP) NV-1715-1265
Shipboard Non-Tactical Automated Data Processing (SNAP) Basic Operator, Class C1 NV-1402-0172
Shipboard Non-Tactical Automatic Data Processing (SNAP 1) System Enlisted Supervisor/Operator NV-1402-0150
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat NV-1402-0152
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) System Coordinator NV-1402-0151
Shipboard Non-Tactical Automatic Data Processing (SNAP) 3-M Coordinator/Inspector NV-1402-0153

Nondestructive
Aircraft Nondestructive Inspection Technician NV-1704-0412
Nondestructive Testing of Metals Eddy Current Inspection, Class C1 NV-1724-0008
Nondestructive Testing of Metals Radiographic Inspector NV-1724-0012
Nondestructive Testing of Metals Radiographic Operator NV-1724-0009
Nondestructive Testing of Metals Ultrasonic Shearwave Inspection, Class C1 NV-1724-0005
Nondestructive Testing of Metals Ultrasonic Silver Braze Inspection, Class C1 NV-1724-0004
Nondestructive Testing of Metals Ultrasonic Thickness Inspection, Class C1 NV-1724-0003
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/Inspector NV-1724-0011

Nonresident
Maritime Operations Employment of Naval Forces Nonresident Seminar NV-2202-0134
National Security Decision Making Nonresident Seminar NV-1511-0026
Strategy and Policy Nonresident Seminar NV-1511-0025

NTDS
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification NV-1715-1542
Antisubmarine Air Control Naval Tactical Data System (NTDS) NV-2202-0120
CV Naval Tactical Data Systems (NTDS) Data Utilization NV-2202-0114
DD-963 Naval Tactical Data System (NTDS) Data Utilization NV-1402-0023
DD-963 Naval Tactical Data System (NTDS) Data Utilization, Class C2 NV-1402-0023
DD-963 Naval Tactical Data Systems (NTDS) Data Input NV-1402-0010
Naval Tactical Data System (NTDS) (Data Utilization) NV-1402-0023

Nuclear
Clinical Nuclear Medicine Technician NV-0705-0008
Electronics Technician Nuclear Field, Class A1 NV-1715-1070
Naval Nuclear Power School, Enlisted NV-1732-0026
Nuclear Power Plant Components Welder NV-1710-0149
Nuclear Power Plant Components Welder, Class C1 NV-1710-0069
Nuclear Power Plant Operator Welder NV-1710-0114
Nuclear Power Plant Welder Requalification NV-1732-0019
Nuclear Propulsion Plant Operators Welding NV-1710-0114
Nuclear Propulsion Plant Refresher Training NV-1732-0015
Nuclear Submarine Medicine Technician NV-0709-0001
Prospective Nuclear Engineer Officer NV-1732-0011

OA-3732
OA-3732/ASM-76 Computer Indicator Intermediate Maintenance NV-1715-0318

OA-8962/ASH
OA-8962/ASH Recording Group Intermediate Maintenance NV-1715-1574

OA-9008
OA-9008 Magnetic Tape Control Unit and Magnetic Tape Transport NV-1715-1033

Obligator
Boiler Technician Six-Year Obligator (BT-6YO) Advanced Maintenance NV-1710-0124

Obligor
Engineman Six Year Obligor Advanced Operator/Maintenance Auxiliary Strand NV-1710-0123
Engineman Six Year Obligor Advanced Operator/Maintenance Core NV-1710-0122
Engineman Six Year Obligor Advanced/ Maintenance (Main Propulsion Strand) NV-1732-0024

Observer
Technical Training Marine Corps Weather Observer PIBAL Equipment and Operation NV-1304-0015

Ocean
Ocean Surveillance Information System (OSIS) Baseline Upgrade Computer User NV-1402-0117
Ocean Surveillance Information System (OSIS) Baseline Upgrade System Management NV-1402-0119
Ocean Systems Advanced Acoustics NV-1304-0010
Ocean Systems Operational Procedures Enlisted NV-1304-0009
Ocean Systems Operational Procedures Officer NV-1304-0008
Ocean Systems Technician Analyst, Class A NV-1704-0333
Ocean Systems Technician Electronic NV-1715-1114
Ocean Systems Technician Equipment Maintenance NV-1304-0007
Ocean Systems Technician Maintainer, Class A NV-1715-1327
Prototype Ocean Surveillance Terminal User NV-1402-0118

Oceanographic
Meteorological and Oceanographic Analyst/ Forecaster NV-1304-0013

Oceanography
Basic Oceanography Accession Training NV-1304-0016
Tactical Oceanography Support Interpreter/ Briefer, Class C NV-1715-1524
Tactical Oceanography Support Operator, Class C1 NV-1715-1523

Ocular
Ocular Technician NV-0706-0006

OE-159
OE-159 Reel Operator/Maintenance NV-1704-0281

OE-82B/WSC-1(V)
AN/WSC-3 Satellite Communications Set and OE-82B/WSC-1(V) Antenna Group NV-1715-0876

OF-17/ARC-105
OF-17/ARC-105 Antenna Coupler Group and AN/ARM-158 Radio Test Set Intermediate Maintenance NV-1715-1621

Off-line
AN/USM-470(V)1 Off-line Maintenance Training NV-1715-1705

Officer
New Threat Upgrade (NTU) Officer NV-1715-1742
Officer Candidate NV-2204-0001
Officer of the Deck-Basic NV-1722-0008
Prospective Officer of the Deck NV-1722-0008
Tartar Medium Range Missile System Officer New Threat Upgrade NV-1715-1742

Ohmmeter
ASM-144 On Board Memory Tester Digital Volt Ohmmeter Intermediate Maintenance NV-1715-1210

Oil
Main Engine and Lube Oil Purifier NV-1601-0027

OJ-326(V)
Display Console OJ-326(V) 1-4/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase I NV-1402-0127
Display Console OJ-326(V)/UYK and Digital Display Indicator IP-1181/UYK Maintenance Phase III NV-1402-0128
Display Console OJ-326(V)/UYK and Digital Display Indicator IR-1181/UYK Maintenance Phase II NV-1402-0126

OJ-510/ALM
OJ-510/ALM Digital Test Bench Intermediate Maintenance NV-1715-1622

OJ-511/ALM
OJ-511/ALM Exciter Test Station Intermediate Maintenance NV-1715-1416

OJ-615/ALM
OJ-615/ALM Countermeasures Test Console Intermediate Maintenance NV-1715-1421

OM-55/USC
OM-55/USC Super High Frequency Satellite Communication Modular Demodulator Group Maintenance NV-1715-1346

Omega
AN/SRN-12/12A Omega Receiving Set Maintenance NV-1715-1064

Operating
Operating Room Technician, Class C NV-0703-0007

Operational
Advanced Operational Intelligence Analysis NV-1511-0024
Basic Navy Operational Intelligence NV-1511-0027
General Purpose Electronic Test Equipment Functional and Operational Use NV-1715-1331
Intelligence Specialist, Class A, Operational Intelligence NV-1606-0073
Intelligence Specialist, Class A, Operational Intelligence Reserve, Phases 1 and 2 NV-1511-0032
Navy Tactical Command System—Afloat Operational Intelligence Systems Afloat NV-1606-0087
Ocean Systems Operational Procedures Enlisted NV-1304-0009
Ocean Systems Operational Procedures Officer NV-1304-0008
Operational Intelligence Analysis NV-1511-0024

Operations
Advanced High Frequency Direction Finding (HFDF) Operations NV-1715-1871
Job Oriented Basic Skills (JOBS), Class AP-1, Operations Ratings, Strand 2 NV-0501-0002
LHD Exterior Communication Operations NV-1715-1737
LHD Exterior Communication System Operations NV-1715-1737
Naval Warfare Operations Specialist—Advanced NV-2202-0127
Operations Specialist NV-1606-0077
Operations Specialist, Class A1 NV-1606-0060
Operations Summary Console Difference Maintenance NV-1715-1034
Special Operations Technician NV-0709-0022

Operator
AN/SQQ-89(V)1/3 Antisubmarine Warfare Combat System Operator, Class C NV-1715-1508
AN/WSQ-5 Cluster Spectator Operator NV-1715-1878
AN/WSQ-5 Operator NV-1715-1878
Aviation Electronic Warfare Operator NV-1715-1880
Combat Direction Finding Operator NV-1715-1868
Direct Support Operator NV-1715-1869
GT-3A Operator and Intermediate Maintenance NV-1715-1733
High Frequency Direction Finding (HFDF) Operator NV-1715-1872
Intelligence Analysis System Operator NV-1402-0209
SQQ-89(V) On-Board Trainer Operator and Administration NV-1715-1780

Underwater Fire Control Mk 116/4 Operator and Maintenance, Class C NV-1715-1854
Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator NV-0505-0004

Optical
Optical Landing System Maintenance NV-1715-1240
Optical Landing System Maintenance, Class C1 NV-1715-1240
Optical Landing Systems Maintenance NV-1715-1240
Precision Optical Measurement NV-1606-0081
Submarine Periscope (Optical) Repairman NV-1715-1654
Type 18 Submarine Periscope (Optical) Repair NV-1715-1636
Vertical and Short Take-Off Optical Landing System (VSTOL) NV-1715-1861

Opticalman
Opticalman, Class A NV-1721-0017

Opticalmen
Opticalmen, Class A NV-1721-0007

Optician
Optician, Class C NV-0706-0005

Optics
AN/FAC-6(V) Fiber Optics Intersite Maintenance, Class C1 NV-1715-1758
AV-8B Aircraft Wire/Connector and Fiber Optics Repair/Assembly Organizational Maintenance NV-1715-1728

OQ-35A/ASM-347
OQ-35A/ASM-347(V) Programmer Comparator Intermediate Maintenance NV-1715-1412

OQ-35A/ASM-347(V)
OQ-35A/ASM-347(V) Programmer Comparator Intermediate Maintenance NV-1715-1412

Ordnance
Advanced Explosive Ordnance Disposal NV-2202-0152
AV-8B Aircraft Ordnance Technician Integrated Organizational Maintenance NV-1704-0403
Aviation Ordnance Munitions Technician Intermediate Maintenance NV-2202-0168
Aviation Ordnance Officer Career Progression Level 1 NV-1406-0028
Aviation Ordnance Officer Career Progression Level 2 NV-1406-0029
Aviation Ordnance Officer Career Progression Level 3 NV-1406-0030
Aviation Ordnance, Class A1 NV-1715-1437
Diver Explosive Ordnance Disposal NV-0803-0011 NV-2202-0151
Diver Explosive Ordnance Disposal Mk 16 Underwater Breathing Apparatus (UBA) Mixed Gas NV-2202-0156
Explosive Ordnance Disposal Diver Candidates NV-1606-0010
Explosive Ordnance Disposal Mixed Gas Diving Underwater Breathing Apparatus NV-2202-0156
Explosive Ordnance Disposal Phase 2 (Navy), Class C1 NV-2202-0157
Explosive Ordnance Disposal Phase 2 (Surface) (C1) NV-2202-0154
Explosive Ordnance Disposal Sonar Search System Basic NV-2202-0155
Explosive Ordnance Disposal, Phase 1 NV-2202-0113
P-3 Armament/Ordnance Intermediate Maintenance NV-1715-1568
P-3A/B Ordnance Systems Organizational Maintenance NV-1704-0376
P-3C Armament/Ordnance System Organizational Maintenance NV-1715-1569
Trident Defensive Weapons Ordnance Subsystem and Maintenance NV-1704-0427
Trident Defensive Weapons Ordnance Subsystem O/M NV-1704-0276

Organizational
Aviation Structural Mechanic H (Hydraulics) Organizational Level, Class A1 NV-1704-0441
EA-6B Integrated Electronic Countermeasures System Organizational Maintenance NV-1715-1613
Organizational Effectiveness Advanced Consultant Course NV-0326-0004
Organizational Effectiveness Specialist NV-0326-0003

Orientation
Navy Recruiting Orientation NV-1406-0016

ORTS
Aegis FCS/ORTS Operation and Maintenance (CG-47-64) NV-1715-1750
Aegis FCS/ORTS Operation and Maintenance (CG-65-73/DDG) NV-1715-1749
Aegis Fire Control System/ORTS Operation and Maintenance NV-1715-1304

Otolaryngology
Otolaryngology Technician, Class C NV-0709-0016

Outboard
Cryptologic Outboard Division Officer NV-1405-0031
Outboard 1 Systems Maintenance NV-1715-1640
Outboard 2 Systems Maintenance NV-1715-1638
Outboard Division Chief NV-1402-0186
Outboard Division Officer NV-1404-0015
Outboard Maintenance Acquisition Technician NV-1715-1246
Outboard Maintenance Common Core NV-1715-1637
Outboard Maintenance Direction Finding (DF) Technician NV-1715-1241
Outboard Motor Overhaul NV-1731-0002
Outboard Operator NV-1402-0184
Outboard Systems Maintenance NV-1715-1885

Output
Central Navigation Computer (CNC) (Input/Output) NV-1402-0026
Magnetic Tape Input/Output Device MX-7988A and B/UYK Maintenance NV-1715-1454

Oxygen
6L16 Electrolytic Oxygen Generator Electrical Technician NV-1715-1840
6L16 Oxygen Generator Electrical Technician NV-1715-0918
A/M26U-5 Expeditionary Oxygen/Nitrogen System (EONS) Intermediate Maintenance Activity NV-1720-0005
Deep Sea Helium-Oxygen Diving Officer NV-1606-0009
Oxygen Equipment Cleaning and Calibration NV-1601-0033
Oxygen Generator 6L16 Operator NV-1601-0018
Oxygen Generator Operator 6L16 NV-1601-0018
Oxygen Generator Operator/Mechanical Technician NV-1601-0019
Oxygen Generator Technician 6L16 NV-1715-0918
Oxygen System Component Test Stand/Oxygen Regulator Repair NV-1704-0436
Treadwell Oxygen Generator Operation/Maintenance 6L16 NV-1601-0018

P-3
Aviation Machinist's Mate, Class A, (P-3) Power Plant System, Class A1 NV-1715-1026
P-3 AN/APA-125A Indicator Group Intermediate Maintenance NV-1715-0172
P-3 AN/APA-125A Indicator Maintenance, No. 48 NV-1715-0172
P-3 AN/APN-70 Loran System Intermediate Maintenance NV-1715-0112
P-3 AN/APS-80 Search Radar System Maintenance NV-1715-0695
P-3 AN/APX-7 Radar Recognition System Intermediate Maintenance NV-1715-0511

P-3 AN/ARC-51A Communication Systems Maintenance, No. 22
NV-1715-0710
P-3 AN/ASQ-10A Magnetic Anomaly Detecting Systems Maintenance, No. 42
NV-1715-0178
P-3 Armament/Ordnance Intermediate Maintenance
NV-1715-1568
P-3 Aviation Machinist's Mate (AD) Entry Level
NV-1715-1026
P-3 Electrical Components Intermediate Maintenance
NV-1704-0072
P-3 Electrical Systems Intermediate Maintenance
NV-1704-0072
P-3 Engine Driven Compressor Intermediate Maintenance
NV-1704-0378
P-3 Flight Engineer System, No. 6
NV-1704-0048
P-3 Flight Engineers System
NV-1704-0048
P-3 PB-20N Autopilot System Intermediate Maintenance
NV-1715-0462
P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance
NV-1704-0380
P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance
NV-1704-0380
P-3 T-56-A-14 Engine and Related Systems Maintenance
NV-1704-0019
P-3 T56-A-10/14 Engine and Related Systems Organizational Maintenance
NV-1704-0019
P-3, C-130, C-2 Electrical Components Intermediate Maintenance
NV-1715-1666

P-3A/B
P-3A/B (DIFAR) Weapons Systems Technician Organizational Maintenance
NV-1715-1024
P-3A/B Integrated Electrical System Organizational Maintenance
NV-1704-0375
P-3A/B Ordnance Systems Organizational Maintenance
NV-1704-0376
P-3A/B TAC/NAV Mod Organizational Maintenance
NV-1402-0055

P-3B
P-3B (Modified) Weapon System Technician Organizational Maintenance
NV-1715-1667

P-3C
P-3C Air Conditioning, Pressurization, and Utility Systems Organizational Maintenance
NV-1701-0015
P-3C AN/ASW-31 Automatic Flight Control System Intermediate Maintenance
NV-1715-1579
P-3C Armament/Ordnance System Organizational Maintenance
NV-1715-1569
P-3C Communication/Navigation Organizational Maintenance
NV-1715-0533
P-3C Connector and Wire Repair Organizational Maintenance
NV-1714-0061
P-3C Flight Engineer System Familiarization
NV-1704-0379
P-3C Integrated Avionics System (Update I) Organizational Maintenance
NV-1715-1025
P-3C Integrated Avionics System Data Processing Systems 1 and 2 Integrated Organizational Maintenance
NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems 1 and 2 Organizational Maintenance
NV-1715-1668
P-3C Integrated Avionics System Data Processing Systems One and Three Organizational Maintenance
NV-1704-0348
P-3C Integrated Avionics System Sensor Station 3 Integrated Organizational Maintenance
NV-1715-1679
P-3C Integrated Avionics System Sensor Station One and Two Systems Integrated Organizational Maintenance
NV-1715-1673
P-3C Integrated Avionics System Sensor Station One and Two Systems Organizational Maintenance
NV-1715-1673
P-3C Integrated Avionics System Sensor Station Three Systems Organizational Maintenance
NV-1704-0350
P-3C Integrated Avionics System Technician
NV-1715-0329
P-3C Integrated Avionics System, Display Systems Organizational Maintenance
NV-1704-0349
P-3C Integrated Avionics Systems CP-901(V)/ASQ-114(V) Integrated Organizational Maintenance
NV-1715-1665
P-3C Integrated Avionics Systems CP-901(V)3 and 4/114(V) Organizational Maintenance
NV-1715-1665
P-3C Integrated Avionics Systems Data Processing Systems 1 and 3 Integrated Organizational Maintenance
NV-1715-1683
P-3C Integrated Avionics Systems Display Systems Integrated Organizational Maintenance
NV-1715-1682
P-3C Integrated Avionics Systems Integrated Organizational Maintenance Full Systems Troubleshooting
NV-1715-1690
P-3C Integrated Avionics Systems Navigation/Communication Systems Integrated Organizational Maintenance
NV-1715-1680
P-3C Integrated Avionics Systems Update Navigation/Communication Systems Organizational Maintenance
NV-1704-0351
P-3C Integrated Avionics Update III Integrated Organizational Maintenance
NV-1715-1664
P-3C Integrated Electrical System Integrated Organizational Maintenance
NV-1704-0377
P-3C Integrated Electrical Systems Organizational Maintenance
NV-1704-0355
P-3C MX-9360/AYA-8B LU-4 Integrated Organizational Maintenance
NV-1715-1676
P-3C Navigation/Communication Integrated Organizational Maintenance
NV-1715-1678
P-3C Navigation/Communication Organizational Maintenance
NV-1715-1577
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Integrated Organizational Maintenance
NV-1715-1672
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Organizational Maintenance
NV-1715-1672
P-3C Sensor Station 1 and 2 AN/AQA-7(V)10 Integrated Organizational Maintenance
NV-1715-1674
P-3C Sensor Station 1 and 2 AN/AQA-7(V)10 Organizational Maintenance
NV-1715-1674
P-3C Sensor Station One and Two (Acoustic Systems Technician) Organizational Maintenance
NV-1715-0256
P-3C Sensor Station Three (Radar/Display)Technician Organization Maintenance
NV-1715-0640
P-3C Sensor Station Three System Organizational Maintenance
NV-1715-0640
P-3C Update 3 Modernized Logic Units Integrated Organizational Maintenance
NV-1715-1671
P-3C Update 3 OL-337(V)1/AY Modernized Logic Units Organizational Maintenance
NV-1715-1671
P-3C Update 3 Sensor Stations 1 and 2 Integrated Organizational Maintenance
NV-1715-1675
P-3C Update 3 Sensor Stations 1 and 2 Organizational Maintenance
NV-1715-1675

Packard
Mine Warfare Packard Diesel Engineman, Class C
NV-1712-0012

PAIR
AN/SQQ-23 PAIR Operations Basic
NV-1715-1501
Sonar AN/SQQ-23A PAIR Organizational Maintenance
NV-1715-1279

Panel
Flat Panel Display Terminal Maintenance
NV-1402-0139

Parachutist
Advanced Naval Parachutist, Class C1
NV-1733-0005
Jumpmaster Naval Parachutist, Class C1
NV-1733-0004

Parts
Construction Mechanic Repair Parts Storeman
NV-1405-0024

Passive
AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance
NV-1715-1320
AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance
NV-1715-1316
E-2C Passive Detection System (PDS) AN/ALR-73 Organizational Maintenance
NV-1715-1519
Passive Equipment Cabinet (PEC) Operation and Maintenance
NV-1715-1502

Patternmaker
Patternmaker, Class A
NV-1723-0024
Patternmaker, Class A1
NV-1723-0024
Patternmaker, Class J
NV-1723-0021
Patternmaker/Molder, Class J
NV-1723-0022

Pay
Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures
NV-1401-0004

PB-20N
P-3 PB-20N Autopilot System Intermediate Maintenance
NV-1715-0462

PDP-11
UNCRYPT PDP-11 Maintenance
NV-1402-0177

PDP-11/70
Universal Cryptologic Processor Training PDP-11/70 Maintenance
NV-1402-0108

Penetrants
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector
NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/Inspector
NV-1724-0011

Peripheral
AN/UYK-7 DD-963 Computer/Peripheral Technician
NV-1715-1261
AN/UYK-7 FFG-7/36/61 Class Ship Computer/Peripheral Maintenance
NV-1402-0216
CG/CGN/DDG CDS Upgrade AN/UYK-43 Computer/Peripheral Maintenance
NV-1402-0223
CG/GGN Combat Direction System Upgrade AN/UYK-43 Computer/Peripheral Maintenance Technician
NV-1402-0223
CV/CVN Combat Direction System (ASWM) Computer/Peripheral Subsystem Maintenance
NV-1402-0220
DD-963 Class Ship's Computer/Peripheral Subsystem Maintenance
NV-1402-0215
DD-963 Computer/Peripheral Subsystem Maintenance
NV-1402-0215
Digital Control Computer Peripheral Equipment Advanced Maintenance Fire Control System Mk 88 Mod 1
NV-1402-0143
FFG-7/36/61 Class Ships Computer/Peripheral Subsystem Maintenance
NV-1402-0216
LHD Computer and Peripheral Equipment Maintenance
NV-1402-0224

Periscope
Periscope Set Type 15 Electronics Combined Maintenance
NV-1715-0988
Periscope Type 15 Combined Maintenance
NV-1715-0988
Periscope Type 18 Combined Maintenance
NV-1715-1221
Submarine Periscope (Optical) Repairman
NV-1715-1654
Submarine Periscope Repair
NV-1715-1636
Submarine Periscope Repair, Class C1
NV-1715-1065
Type 18 Submarine Periscope (Optical) Repair
NV-1715-1636
Type 2 & 15 Submarine Periscope Repair
NV-1715-1654

Personnel
Unaccompanied Personnel Housing Management, Class C1
NV-0401-0001

Personnelman
Personnelman, Class A
NV-1406-0023
NV-1409-0001
Submarine Yeoman/Personnelman Advanced Administration
NV-1406-0021

Petroleum
Offshore Petroleum Discharge System Beach Termination Unit (BTU) Operations Technician
NV-1601-0038
Offshore Petroleum Discharge System Officer-in-Charge
NV-1601-0036
Offshore Petroleum Discharge System Side Loadable Warping Tug (SLWT) Operations Technician
NV-1708-0003

Petty
First Class Petty Officer Leadership
NV-1717-0027
Gunnery Petty Officer
NV-2201-0113
Leader Development Program (NAVLEAD) for Leading Petty Officers
NV-1717-0025
Leadership and Management Education and Training (LMET) for Chief Petty Officers
NV-1717-0015
Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers
NV-1717-0015
Leadership and Management Education and Training (LMET) for Leading Petty Officers
NV-1717-0014
Navy Leader Development Program (NAVLEAD) for Chief Petty Officers
NV-1717-0023
Second Class Petty Officer Leadership
NV-1717-0029

Pharmacy
Pharmacy Technician, Class C
NV-0799-0008

Photogrammetric
Modular Image Interpretation System and Analytical Photogrammetric Positioning System Maintenance
NV-1709-0024

Photographer's
Photographer's Mate School, Class A
NV-1709-0037

Photographic
Photographic Equipment Preventive/Operational Maintenance
NV-1709-0028
Photographic Equipment Repair, Class C1
NV-1709-0029
Photographic Laboratory Technician, Class C1
NV-1709-0018

Photography
Advanced Photography Training
NV-1709-0030
Illustrative Photography, Class C1
NV-1709-0017
Intelligence Photography
NV-1709-0038
Medical Photography Technician, Class C
NV-1709-0041
Still Documentary Photography, Class C1
NV-1709-0010

Physical
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems Phases B/D
NV-1715-1495
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems, Phases B/D
NV-1715-1495
Physical Dimensional Measurement and Calibration
NV-1606-0082
Physical Training Instructor Class F2
NV-1406-0034
Precision Physical and Dimensional Measurement
NV-1606-0082
Remote Sensor System for Physical Security, Class C1
NV-1721-0001

Physician's
Physician's Assistant
NV-0709-0012

Physiology
Aerospace Physiology Technician
NV-0709-0004

PIBAL
Technical Training Marine Corps Weather Observer PIBAL Equipment and Operation
NV-1304-0015

Pilot
Barge Ferry Pilot
NV-1722-0011
VQ/VAQ/VMAQ Pilot
NV-1606-0083
VQ/VAQ/VMAQ Pilot and EA-3B Navigator Electronic Warfare (EW) Officer
NV-1606-0066

Planner
Construction Planner and Estimator NV-1408-0034
Harpoon Weapon System AN/SWG(V)/1A(V) Engagement Planner (Surface Application) NV-1715-1538

Planning
Afloat Strike Planning Support Systems Applications NV-1709-0040
Afloat Strike Planning Systems Applications NV-1709-0040
Construction Planning and Estimating Specialist NV-1408-0034
Landing Force Ground Combat Element Communication Staff Planning NV-1715-1846
Navy Tactical Command System Afloat Strike Planning (STRIKE) Application NV-1709-0040
Tactical Aircraft Mission Planning System (TAMPS) System Administrator NV-1402-0207

Plant
A-7A/B Power Plant and Related Systems Organizational Maintenance NV-1704-0135
A-7B/TA-7C Power Plant and Related Systems Organizational Maintenance NV-1704-0135
A-7E Power Plant and Related Systems Organizational Maintenance NV-1704-0140
Advanced Base Power Plant Maintenance NV-1714-0080
Aviation Machinist's Mate, Class A (S-3A), Power Plant Systems NV-1703-0014
Aviation Machinist's Mate, Class A, (A7) Power Plant System NV-1704-0249
Aviation Machinist's Mate, Class A, (P-3) Power Plant System, Class A1 NV-1715-1026
Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698
Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance NV-1715-0700
E-6A Power Plant and Related Systems (Initial) Organizational Maintenance NV-1704-0445
E-6A Power Plant and Related Systems Organizational Maintenance NV-1704-0449
EC-130 Power Plant and Related Systems Maintenance NV-1704-0280
FFG-7 Electrical Plant Control Console Operator Electrical Maintenance NV-1714-0039
FFG-7 Electrical Plant Control Console Operator Mechanical Maintenance NV-1714-0040
Gas Turbine Hot Plant, Class A NV-1710-0121
Gas Turbine System Technician (GS) Advanced Hot Plant NV-1710-0146
Gas Turbine System Technician (GS) Advanced Hot Plant GL-7 Strand NV-1710-0144
Gas Turbine System Technician, Class A, Hot Plant NV-1710-0145
Lithium Bromide Air Conditioning Plant Operator NV-1701-0002
MMG-1A Mobile Electric Power Plant Intermediate Maintenance NV-1714-0038
NC-8A/-1 Mobile Electric Power Plant Intermediate Maintenance NV-1732-0021
Nuclear Power Plant Components Welder NV-1710-0149
Nuclear Power Plant Components Welder, Class C1 NV-1710-0069
Nuclear Power Plant Operator Welder NV-1710-0114
Nuclear Power Plant Welder Requalification NV-1732-0019
Nuclear Propulsion Plant Operators Welding NV-1710-0114
Nuclear Propulsion Plant Refresher Training NV-1732-0015
S-3A Power Plant and Related Systems Organizational Maintenance NV-1704-0287
SH-2 Aviation Machinist's Mate Power Plant System NV-1704-0289
SH-60B Power Plant and Related Systems Organizational Maintenance NV-1704-0293
Steam Generating Plant Inspector NV-1732-0001
Steam Plant Automatic Controls Maintenance (Bailey Meter) NV-1710-0074
Steam Plant Automatic Controls Maintenance (General Regulator) NV-1710-0072
Steam Plant Automatic Controls Maintenance (Hagan) NV-1710-0073

Plants
E-2/C-2 Power Plants/Propeller and Related Systems Integrated Organizational Maintenance NV-1704-0360
E2/C2 Power Plants and Propeller Organizational Maintenance NV-1704-0338
F/A-18 Power Plants and Related Systems Integrated Organizational Maintenance NV-1704-0388
F/A-18 Power Plants and Related Systems Organizational Maintenance NV-1704-0383
MH-53E Power Plants and Related Systems Organizational Maintenance NV-1704-0335
SH-2F Power Plants, Related Systems, and Rotor Systems Organizational Maintenance NV-1704-0336
SH-60F/HH-60H Power Plants and Related Systems Organizational Maintenance NV-1704-0345

Plate
Plate Welders, Class C NV-1710-0044

Platform
AN/ASN-31/36/92 Inertial Platform Maintenance Technician Intermediate Maintenance NV-1715-1214
Electrostatically Supported Gyro Monitor (ESGM) Duplex Platform Interface Buffer NV-1715-1157
Inertial Platform Test Station (IPTS) Intermediate Maintenance NV-1715-1207
Platform Positioning Subsystem Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0997

Plotter
AN/AYK-2 Navigation Computer Group and OA-1768A Plotter Board Group Intermediate Maintenance NV-1715-0227

Plotting
Mk NC-2 Mod 2/2A Plotting System Maintenance NV-1715-1339
Plotting System Mk NC-2 Mod 0 Maintenance NV-1715-0082
Plotting System Mk NC-2 Mod 1A Maintenance NV-1715-0075
Plotting System PT-512/S Tactical Display Maintenance NV-1715-1136

Pneumatic
A-7A/B Hydraulic and Pneumatic Systems Organizational Maintenance NV-1704-0190
A-7A/B Structures, Hydraulics, and Pneumatic Systems Maintenance NV-1704-0190
A-7E Hydraulic and Pneumatic Systems Organizational Maintenance NV-1704-0013
A-7E Hydraulic, Pneumatic and Airframe Systems Organizational Maintenance NV-1704-0013
Aircraft Hydraulic and Pneumatic Component Test Stand (HCT-10) and Limited Aircraft Component Intermediate Maintenance NV-1704-0361
AV-8B Aircraft Hydraulic/Pneumatic Mechanic Integrated Organizational Maintenance NV-1704-0402
Trident Pneumatic Subsystem Maintenance NV-1704-0317

Point
Basic Point Defense Surface Missile System NV-1715-0778

Policy
Naval War College Correspondence Course in Strategy and Policy NV-1511-0011
Strategy and Policy (College of Naval Command and Staff) NV-1511-0013
Strategy and Policy (College of Naval Warfare/Naval Command College) NV-1511-0012
Strategy and Policy Nonresident Seminar NV-1511-0025

Portable

AN/ASM-33B AN/ASM-122 Portable Module Test (PMT) Intermediate Maintenance NV-1715-1211

Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance NV-1704-0353

Poseidon

Missile Technician Poseidon NV-1715-1127

Missile Technician Poseidon Replacement NV-1715-1127

Poseidon Missile Technician Conversion (A-2/A-3 to C-3) NV-1715-0576

Poseidon Mk 3 Reentry System Tender Transfer and Handling NV-2203-0143

Poseidon Trident 1 Backfit Intermediate Level Fire Control Technician FCS 88 Mod 1/2 NV-1715-1129

Strategic Weapon System Command Poseidon Weapons Officer NV-1715-1395

Strategic Weapons System Assistant Weapons Officer Poseidon NV-2202-0142

Strategic Weapons System Officer Poseidon NV-2202-0141

Position

Hovering and Missile Compensation and Associated Position Control Units Electrical Maintenance NV-1715-1311

Positioning

Modular Image Interpretation System and Analytical Photogrammetric Positioning System Maintenance NV-1709-0024

NAVSTAR Global Positioning System (GPS) AN/WRN-6(V) Combined Maintenance NV-1715-1555

Platform Positioning Subsystem Fire Control System (FCS) Mk 88 Mod 1 NV-1715-0997

Power

3"/50 Rapid Fire Twin Mount Power Drive and Gun Maintenance NV-1715-0655

3"/50 Rapid Gun Fire Twin Mount Power Drive and Gun NV-1715-1535

A-7A/B Power Plant and Related Systems Organizational Maintenance NV-1704-0135

A-7A/B TF30-P-6/408 Power Plants and Related Systems Organizational Maintenance NV-1704-0135

A-7B/TA-7C Power Plant and Related Systems Organizational Maintenance NV-1704-0135

A-7E Power Plant and Related Systems Organizational Maintenance NV-1704-0140

Advanced Base Power Plant Maintenance NV-1714-0080

AM-2310-ASQ AM-2349-ASQ-19 Amplifier (Power Supply) Receiver Intermediate Maintenance NV-1715-1060

AN/AQM-18(V)1 Thru (V)5 Sonar Computer Recorder Group Test Central and AN/AQM-20 Computer Group Power Systems Test Set Intermediate Maintenance NV-1715-0539

AN/BQQ-6 Group A Primary Power Control (PCC)/SSDC Advanced Maintenance NV-1715-1317

Auxiliary Power Unit First Degree Intermediate Maintenance Repair NV-1704-0382

Aviation Machinist's Mate, Class A (S-3A), Power Plant Systems NV-1703-0014

Aviation Machinist's Mate, Class A, (A7) Power Plant System NV-1704-0249

Aviation Machinist's Mate, Class A, (P-3) Power Plant System, Class A1 NV-1715-1026

Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698

Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance NV-1715-0698

Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance NV-1715-0700

Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance NV-1704-0353

Construction Electrician Power and Communications Cable Splicing NV-1714-0059

E-2/C-2 Power Plants/Propeller and Related Systems Integrated Organizational Maintenance NV-1704-0360

E-6A Power Plant and Related Systems (Initial) Organizational Maintenance NV-1704-0445

E-6A Power Plant and Related Systems Organizational Maintenance NV-1704-0449

E2/C2 Power Plants and Propeller Organizational Maintenance NV-1704-0338

EC-130 Power Plant and Related Systems Maintenance NV-1704-0280

Electrical Power Distribution 2 NV-1714-0081

F/A-18 Power Plants and Related Systems Integrated Organizational Maintenance NV-1704-0388

F/A-18 Power Plants and Related Systems Organizational Maintenance NV-1704-0383

MH-53E Power Plants and Related Systems Organizational Maintenance NV-1704-0335

Mk 35 Power Drive Maintenance for 3"/50 Caliber Rapid Fire Gun Mount NV-1715-0147

MMG-1A Mobile Electric Power Plant Intermediate Maintenance NV-1714-0038

Naval Nuclear Power School, Enlisted NV-1732-0026

NC-8A/-1 Mobile Electric Power Plant Intermediate Maintenance NV-1732-0021

Nuclear Power Plant Components Welder NV-1710-0149

Nuclear Power Plant Components Welder, Class C1 NV-1710-0069

Nuclear Power Plant Operator Welder NV-1710-0114

Nuclear Power Plant Welder Requalification NV-1732-0019

P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance NV-1704-0380

P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance NV-1704-0380

S-3A Power Plant and Related Systems Organizational Maintenance NV-1704-0287

SH-2 Aviation Machinist's Mate Power Plant System NV-1704-0289

SH-2F Power Plants, Related Systems, and Rotor Systems Organizational Maintenance NV-1704-0336

SH-3 Aviation Machinist's Mate, Class A Power Plant Systems NV-1704-0297

SH-3 Power Plants and Related Systems Organizational Maintenance NV-1704-0139

SH-3D/H Power Plants and Related Systems Organizational Maintenance NV-1704-0139

SH-60B Power Plant and Related Systems Organizational Maintenance NV-1704-0293

SH-60F/HH-60H Power Plants and Related Systems Organizational Maintenance NV-1704-0345

Submarine Main Power Generating Equipment NV-1714-0053

WR-27 Auxiliary Power Unit Intermediate Maintenance NV-1704-0296

Preamplifier

AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance NV-1715-1316

Precision

AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance NV-1715-1320

Precision Grinding NV-1736-0005

Precision Grinding and Balancing, Class C1 NV-1736-0002

Precision Optical Measurement NV-1606-0081

Precision Physical and Dimensional Measurement NV-1606-0082

Preparation

Advanced Food Preparation NV-1729-0017

Preparatory

Advanced Non-Morse Operator Preparatory NV-1715-1662

Air Traffic Control Maintenance Preparatory NV-1704-0413

- Cryptologic Technician Maintenance Preparatory NV-1715-1685
- Music Preparatory, Class AP NV-1205-0007

Preparedness
- Disaster Preparedness Operations Specialist NV-0801-0013

Pressure
- I/R High Pressure Air Compressor Combined Maintenance NV-1601-0030
- Remote Pressure/Tank Level/Liquid Airflow Indicating Equipment Maintenance NV-1715-1305
- Trident High Pressure and Low Pressure Air Compressor and Dehydrator Advanced Maintenance NV-1704-0428

Pressurization
- P-3C Air Conditioning, Pressurization, and Utility Systems Organizational Maintenance NV-1701-0015

Prevention
- Navy Substance Abuse Prevention Program NV-0799-0007

Preventive
- Preventive Medicine Technician, Class C NV-0707-0002

Principles
- Engineering Maintenance Principles, Practices, and Administration NV-1710-0108
- Engineering Principles and Practices NV-1601-0020
- Interior Communications Principles NV-1715-1830

Prisoners
- Interrogation of Prisoners of War, Reserve, Phase 1 NV-1728-0037
- Interrogation of Prisoners of War, Reserve, Phase 2 NV-1728-0038
- Marine Air-Ground Task Force Interrogation of Prisoners of War NV-1728-0036

Procedures
- Ocean Systems Operational Procedures Officer NV-1304-0008

Processing
- AN/UYK-65(V) Shipboard Non-Tactical Automated Data Processing (SNAP-1) Maintenance System NV-1402-0219
- Integrated Submarine Automated Broadcast Processing System NV-1402-0132
- Naval Intelligence Processing System (NIPS) Afloat Storage and Retrieval Operator NV-1402-0100
- Naval Intelligence Processing System (NIPS) System Maintenance NV-1402-0099
- Radar Signal Processing Equipment (RSPE) Maintenance Mk 1 and Mods 1-5 NV-1715-0403
- Radar Signal Processing Equipment Operational Maintenance NV-1715-0403
- Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance NV-1715-1354
- Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator NV-0505-0001
- Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator NV-0505-0004

Processor
- AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance NV-1715-1320
- AN/UYA-4 Display Maintenance Includes Beacon Video Processor NV-1715-1259
- AN/UYQ-34 Processor Maintenance, Class M3 NV-1715-1764
- AN/UYQ-34(V) Processor Maintenance NV-1715-1764
- Command and Control Processor Subsystem Operator NV-1402-0236
- Computer CP-890 A&B/UYK Processor Maintenance 1 NV-1402-0141
- Computer DP-890A and B/UYK Processor Maintenance 2 NV-1402-0080
- Cryptologic Technician M Universal Cryptologic Processor Wideband Subsystem Maintenance, Class C NV-1402-0070
- Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) Common Core Maintenance NV-1402-0177
- Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
- Cryptologic Technician M, Universal Cryptologic Processor Maintenance NV-1402-0069
- Cryptologic Technician M, Universal Cryptologic Processor Wideband Subsystem Maintenance, Class C NV-1402-0198
- Radio Navigation Set AN/BRN-3B Data Processor Maintenance NV-1402-0142
- Synchronous Distributed Processor 2 NV-1715-1112
- Universal Cryptologic Processor Training (UNCRYPT) Flaghoist VAX Maintenance NV-1402-0193
- Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
- Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C NV-1402-0110
- Universal Cryptologic Processor Training (UNCRYPT) RSX/VMS FORTRAN NV-1715-1684
- Universal Cryptologic Processor Training Classic Bowsprit Sail Maintenance NV-1402-0107
- Universal Cryptologic Processor Training PDP-11/70 Maintenance NV-1402-0108
- Universal Cryptologic Processor Training Shore Cryptologic Support System VAX Maintenance NV-1402-0182

Programmer
- Cryptologic Systems Programmer/Manager NV-1402-0180
- OQ-35A/ASM-347(V) Programmer Comparator Intermediate Maintenance NV-1715-1412
- TS-2109/ASA-48 Semi-Automatic Checkout Equipment (SACE) Programmer Intermediate Maintenance NV-1715-1206

Programming
- Computer Programming AN/UYK-20 Assembler Language Basic NV-1402-0096
- Computer Programming AN/UYK-7 Assembler Language—Basic NV-1402-0095
- Computer Programming AN/UYK-7 CMS-2(Y) Compiler Language Basic NV-1402-0163

Propeller
- 54H60-77 Propeller Intermediate Maintenance NV-1704-0248
- E-2/C-2 Power Plants/Propeller and Related Systems Integrated Organizational Maintenance NV-1704-0360
- E2/C2 Power Plants and Propeller Organizational Maintenance NV-1704-0338
- KAMEWA Controllable Pitch Propeller Maintenance NV-1710-0106

Propulsion
- 1182 Propulsion System Technician NV-1712-0025
- ARS-50 Propulsion Technician NV-1712-0044
- Automated Propulsion System Maintenance NV-1710-0090
- Boiler Technician Steam Propulsion Maintenance Supervisor NV-1710-0109
- DD-963 Main Propulsion Assistant NV-1704-0267
- Engineman Six Year Obligor Advanced/Maintenance (Main Propulsion Strand) NV-1732-0024
- FFG-7 Main Propulsion Assistant NV-1704-0268
- Landing Craft, Air Cushion Propulsion and Lift Systems Maintenance NV-1731-0003
- LSD-41 Propulsion Operator NV-1704-0389
- Machinist's Mate Steam Propulsion Maintenance Supervisor NV-1704-0319
- MCM Class Propulsion Operator and Maintenance NV-1712-0043
- Nuclear Propulsion Plant Operators Welding NV-1710-0114

Nuclear Propulsion Plant Refresher Training NV-1732-0015
Propulsion Alarm and Indicating Systems Maintenance, Class C-1 NV-1710-0137
Propulsion Engineering Basics, Class AP NV-1704-0263
Propulsion Shaft Components Combined Maintenance NV-1710-0057
Senior Enlisted Propulsion Engineering NV-1732-0014
Senior Enlisted Propulsion Engineering (Steam, Gas Turbine, Diesel) NV-1732-0014
Surface Warfare Officer Specialty Course Steam Main Propulsion Assistant NV-1710-0093

Prospective
Prospective Electronics Material Officer Pacific NV-1715-1603
Prospective Nuclear Engineer Officer NV-1732-0011
Prospective Officer of the Deck NV-1722-0008

Prototype
Prototype Ocean Surveillance Terminal User NV-1402-0118

Public
Public Quarter/Flag Operations NV-0401-0002

Pulse
AN/ULA-2 Pulse Analyzer Group Intermediate Maintenance NV-1715-1016
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance NV-1715-0797

Pump
Pump Maintenance NV-1710-0091
Pump Maintenance NV-1710-0158

Purifier
Main Engine and Lube Oil Purifier NV-1601-0027

Qualification
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification NV-1715-1542
Air Intercept Controller Supervisor Qualification, Class C1 NV-1704-0339
Air Intercept Controller, Conventional Qualification NV-2202-0131
Master Diver Qualification NV-1606-0016
Supply Corps Officer Basic Qualification NV-1405-0019
Supply Corps Officer Basic Qualification Aviation Management NV-1405-0012

Quality
Communications Quality Monitoring System NV-1715-1611
DD-963 Facilities Control Quality Monitoring Operator NV-1715-1596

Quarry
Equipment Operator Blasting and Quarry Operations NV-1710-0134

Quarter
Public Quarter/Flag Operations NV-0401-0002

Quartermaster
Quartermaster, Class A NV-1606-0076
Senior Quartermaster Refresher NV-2202-0150

Quarters
Bachelor Quarters Management NV-0401-0001

R-11
R-11 Centrifugal 110 Ton Air Conditioning Combined Maintenance NV-1701-0004

R-114
R-114 Air Conditioning System York 150 Ton NV-1701-0009
R-114 York 200 Ton Air Conditioning Technician NV-1701-0012

R-12
Ship's Stores Refrigeration System R-12 Combined Maintenance NV-1730-0009
Submarine Ship Stores Refrigeration R-12 Combined Maintenance NV-1701-0010
Submarine Ships Stores Refrigeration R-12 Combined Maintenance NV-1701-0010

Radar
3D Radar Maintenance AN/SPS-52C NV-1715-1268
3D Radar Search AN/SPS-39A NV-1715-1390
A-7 AN/APN-190 Doppler Radar Navigation System Intermediate Maintenance NV-1715-0200
A-7 AN/APQ-116 Radar Set Intermediate Maintenance NV-1715-0408
A-7A/B AN/APQ-116 Radar Set Organizational Maintenance NV-1704-0251
A-7E AN/APQ-126 Radar Set Intermediate Maintenance NV-1715-0260
Advanced Radar Air Traffic Control, Class C1 NV-1704-0421
Aegis Radar System AN/SPY-1A Operation and Maintenance NV-1715-1303
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance NV-1715-1419
AN/APM-446 Radar Set Test Station Operator/Maintainer Intermediate Maintenance NV-1715-1701
AN/APN-141(V) Radar Altimeter Intermediate Maintenance NV-1715-1031
AN/APN-154(V) Radar Beacon Intermediate Maintenance NV-1715-0584
AN/APN-171(V) Radar Altimeter (Low Level) and AN/APQ-107 Radar Altimeter Warning Set Intermediate Maintenance NV-1715-0493
AN/APN-171(V) Radar Altimeter (Low Level) Intermediate Maintenance NV-1715-0493
AN/APN-171B(V) Radar Altimeter High and Low Level Intermediate Maintenance NV-1715-1720
AN/APN-182A(V) Radar Navigation Set Intermediate Maintenance NV-1715-1582
AN/APN-187 Doppler Radar (DIVARS) Intermediate Maintenance NV-1715-1575
AN/APN-190(V) Doppler Radar Navigation System Intermediate Maintenance NV-1715-0200
AN/APQ-126 (V) Radar Set Intermediate Maintenance NV-1715-0260
AN/APQ-126 Radar Set Special Support Equipment Intermediate Maintenance NV-1715-0513
AN/APQ-126(V) Radar Set Special Support Equipment Intermediate Maintenance NV-1715-0513
AN/APR-39(V)1 Radar Signal Detecting Intermediate Maintenance NV-1715-1731
AN/APS-115B Search Radar System Intermediate Maintenance NV-1715-1681
AN/APS-116 Search Radar and Peculiar Ground Support Equipment Intermediate Maintenance NV-1715-1191
AN/APX-7 Radar Recognition System Intermediate Maintenance NV-1715-0511
AN/APX-72 Radar Identification System Intermediate Maintenance NV-1715-1572
AN/ARM-155-156 TACAN Test Sets and UN/UPM-137A Radar Test Set Calibration/Repair Intermediate Maintenance NV-1715-1562
AN/BPS Radar Combined Maintenance NV-1715-1363
AN/BPS-14 Radar Combined Maintenance NV-1715-1459
AN/BPS-15 Radar Combined Maintenance NV-1715-0491
AN/BPS-15B Radar Combined Maintenance NV-1715-1363
AN/BPS-16 Radar and AN/SPA-25G Indicator Combined Maintenance NV-1715-1839
AN/SPA-25 Series Radar Indicator, C-11300/SPA-25E Off-Centering Controller and SB-15005C/SP Switchboard Maintenance NV-1715-1586
AN/SPA-25/-25(B) Radar Indicator and SB-1505 Switchboard Maintenance NV-1715-0029
AN/SPA-25G Radar Indicator and CV-3989/SP Signal Converter Maintenance NV-1715-1337
AN/SPA-25G Radar Indicator Group Maintenance NV-1715-1337
AN/SPA-37/37A Radar Sets, AN/SPA-63 Countermeasures Receiving Group, and AN/SPS-43/43A Radar Sets Differences NV-1715-0790

AN/SPA-50, AN/SPA-50B Radar Indicator Maintenance
NV-1715-1096
AN/SPA-66 Radar Indicator Maintenance
NV-1715-1094
AN/SPG-53F Modified Radar Maintenance
NV-1715-1066
NV-1715-1707
AN/SPG-55B Mod 9 Radar Difference
NV-1715-1386
AN/SPS-29E Radar Set Maintenance
NV-1715-0749
AN/SPS-40B Radar Set Maintenance (Electronics Technician, Class C1)
NV-1715-0809
AN/SPS-40B/C/D DMTI Radar Set Maintenance
NV-1715-1351
AN/SPS-40B/C/D Radar Set Maintenance
NV-1715-0809
NV-1715-1597
AN/SPS-40E Air Search Radar Set Maintenance
NV-1715-1335
AN/SPS-43A/37A Radar Set Maintenance (Electronics Technician, Class C1)
NV-1715-0790
AN/SPS-48(V) Radar Maintenance
NV-1715-1056
AN/SPS-48C Radar
NV-1715-1133
AN/SPS-48C Radar Difference
NV-1715-1059
AN/SPS-49(V) Radar Set Maintenance
NV-1715-1093
AN/SPS-49(V)1 Radar Maintenance
NV-1715-1594
AN/SPS-49(V)8 Radar Maintenance
NV-1715-1336
AN/SPS-52C Radar Set Maintenance
NV-1715-1268
AN/SPS-55 Radar Set Maintenance
NV-1715-1585
AN/SPS-58A Radar Maintenance
NV-1715-1057
AN/SPS-64(V)9 Radar Set Maintenance
NV-1715-1333
AN/SPS-65(V)1 Radar Set Maintenance
NV-1715-1097
AN/SPS-67(V)1 Radar Set Maintenance
NV-1715-1332
AN/SPS-67(V)3 Radar Maintenance
NV-1715-1785
AN/TPS-73 Radar Maintenance
NV-1715-1763
AN/TPS-73 Radar Maintenance, Class M3
NV-1715-1763
AN/TPX-42A(V)10 Radar Air Traffic Control Facility (RATCF) Direct Altitude Identity Readout (DAIR) Maintenance, Class G1
NV-1715-1435
AN/UPS-1G Radar Maintenance
NV-1715-1770
AN/UPS-1G Radar Maintenance, Class C1
NV-1715-1770
AN/USM-467 Radar Communication Test Station Operator Intermediate Maintenance
NV-1715-1417
AN/USM-467 Radar Communications Test Station Maintainer Intermediate Maintenance
NV-1715-1418
AN/UYX-1(V) Bright Radar Alpha-Numeric Display System (BRANDS)
NV-1715-1756
E-2 Search Radar Set (Transmitter) Intermediate Maintenance
NV-1715-1518
E-2A AN/APS-96 Search Radar Intermediate Maintenance
NV-1715-0672
E-2B AN/APS-96 Radar Organizational Maintenance
NV-1715-1203
EA-6B I CAP 2 Communication, Navigation, and Radar Organizational Maintenance
NV-1704-0357
Electronics Technician Radar Strand Class A
NV-1715-1864
Gun Fire Control System Mk 86 Radar Group Equipment Maintenance
NV-1715-1289
Gun Fire Control System Mk 86 Radar Group Maintenance
NV-1715-1289
LN-66HP Radar Intermediate Maintenance
NV-1715-1202
Marine Air Traffic Control Radar Technician
NV-1715-1772
Marine Air Traffic Control Radar Technician, Class C1
NV-1715-1443
Marine Corps Surveillance Radar, Class C1
NV-1715-0964
P-3 AN/APS-80 Search Radar System Maintenance
NV-1715-0695
P-3 AN/APX-7 Radar Recognition System Intermediate Maintenance
NV-1715-0511
P-3C Sensor Station Three (Radar/Display)Technician Organization Maintenance
NV-1715-0640
Radar Air Traffic Control Facility Operations, Class C1
NV-1704-0244
Radar Set AN/SPG-51D Gun and Guided Missile Director Mk 73 Mod 2 and Ancillary Equipment Operation and Maintenance
NV-1715-1035
Radar Set AN/SPG-53F (Modified) Operational Maintenance
NV-1715-1180
Radar Set AN/SPG-55B Terrier Operation and Maintenance
NV-1715-1124
Radar Signal Processing Equipment (RSPE) Maintenance Mk 1 and Mods 1-5
NV-1715-0403
Radar Signal Processing Equipment Operational Maintenance
NV-1715-0403
Radar System AN/SPY-1A Operation and Maintenance (CG-47-58)
NV-1715-1303
Radar System AN/SPY-1B/D Operation and Maintenance (CG-59-73/DDG)
NV-1715-1748
Relocatable Over The Horizon Radar
NV-1715-1812
SB-4220/SP Radar Signal Distribution Switchboard Maintenance
NV-1715-1592
Tartar Radar AN/SPG-51C Digital
NV-1715-0512
Terminal Radar Approach Control, Class C1
NV-1704-0244
Terrier AN/SPG-55B Mod 9 Radar Maintenance
NV-1715-1122

RADCOM
AN/USM-467 RADCOM Test Station Intermediate Maintenance Course
NV-1715-1213

RADIAC
RADIAC Instrument Maintenance
NV-1715-0545

Radiation
Radiation Detection Indication, and Computation (RADIAC) Equipment Calibration and Repair
NV-1715-1860
Radiation Health Technician, Class C
NV-0705-0009

Radio
AN/ARC-114 Radio Set Intermediate Maintenance
NV-1715-1725
AN/ARC-143, AN/ARC-143A, and AN/ARC-143B UHF Radio Set Intermediate Maintenance
NV-1715-1576
AN/ARC-52 Radio Set Intermediate Maintenance
NV-1715-0773
AN/AWM-23 (AN/AWG-9) Radio Frequency Test Station (RFTS) Intermediate Maintenance
NV-1715-1635
AN/FRT-83, 84 and 85 Radio Transmitters Maintenance, Class C1
NV-1715-0325
AN/FRT-83, 84, 85 Radio Transmitters with the AN/FSO-98 Remote Control System
NV-1715-1528
AN/SRC-20, AN/SRC-21 Radio Sets Maintenance (Electronics Technician, Class 1)
NV-1715-0088
AN/SRN-19(V)2 Radio Navigation Set Maintenance
NV-1715-1341
AN/SRN-9/18 Satellite Radio Navigation Sets Combined Maintenance
NV-1715-1098
AN/URC-94(V) Radio Set Maintenance
NV-1715-1600
AN/URN-20 Radio Set Maintenance
NV-1715-0193
NV-1715-1589
AN/URT-23 Radio Transmitter Set With AN/URA-38 Antenna Coupler Maintenance (Electronics Technician, Class C1)
NV-1715-0056
AN/URT-23(V) Radio Transmitting Set and AN/URA-38 Antenna Coupler Maintenance, Class C
NV-1715-0056
AN/VRC-46 Radio Transmitter Set
NV-1715-1598
DD-963 Spruance Class Destroyer Radio Communications Systems Maintenance
NV-1715-0870
E-2A AN/ARC-80 Radio Set Intermediate Maintenance
NV-1715-0190
E-2A Radio Set AN/ARC-80 Intermediate Maintenance
NV-1715-0190
Electronics Technician AN/URN-20 Radio Set, Class C Maintenance
NV-1715-0193
Electronics Technician, AN/SRC-20, AM/SRC-21 Radio Set Maintenance
NV-1715-0088

Electronics Technician, AN/URC-9, AN/SRC-20, AN/SRC-21 Radio Sets with AN/SRA-33 Antenna Coupler Maintenance NV-1715-0088
Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance NV-1715-1741
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance NV-1715-1762
Marine Air Traffic Control and Landing Systems (MATCALS) Radio Maintenance, Class M3 NV-1715-1762
OF-17/ARC-105 Antenna Coupler Group and AN/ARM-158 Radio Test Set Intermediate Maintenance NV-1715-1621
Radio Communications System Maintenance for DD-963 Class Ships, Class C1 NV-1715-0870
Radio Direction Finder AN/BRD-6 Combined Maintenance NV-1715-0903
Radio Direction Finder AN/BRD-6 Operational Maintenance NV-1715-0903
Radio Frequency Distribution Maintenance NV-1402-0109
Radio Frequency Distribution Maintenance, Class C1 NV-1402-0109
Radio Frequency Switch Matrix System Maintenance, Class C1 NV-1402-0111
Radio Navigation Set AN/BRN-3B Data Processor Maintenance NV-1402-0142
Radio Navigation Set AN/BRN-3B Maintenance NV-1715-1455
RT-712/ARC High Frequency Radio Intermediate Maintenance NV-1715-1625

Radiographic
Nondestructive Testing of Metals Radiographic Inspector NV-1724-0012
Nondestructive Testing of Metals Radiographic Operator NV-1724-0009
Radiographic Operator/Inspector NV-1724-0010

Radiological
Disaster Recovery Training Chemical, Biological, and Radiological NV-0802-0011
Operational Water Chemistry and Radiological Controls NV-0801-0009
Shipboard Chemical, Biological, and Radiological Defense Operations and Training Specialist NV-0801-0012

Radioman
Antisubmarine Warfare Operations Center (ASWOC) Radioman NV-1715-1176
Radioman 21, Class A NV-1402-0171
Radioman, Class A NV-1402-0171
Radioman, Class A, Sea Duty NV-1404-0009
Radioman, Class A, Shore Duty NV-1404-0008
Radioman, Class C7 NV-1715-1609
Submarine Radioman, Class A NV-1402-0168

Range
CGN Medium Range Missile System Technician New Threat Upgrade NV-1715-1740
CGN-36 Medium Range Missile System Technician New Threat Upgrade NV-1715-1739
CGN/NTU Medium Range Missile System Technician NV-1715-1740
CGN/SM-2 Medium Range Missile System Technician NV-1715-1260
Tartar CGN-36 Baseline Medium Range Missile Systems Technician NV-1715-1739
Tartar Medium Range Missile System Officer New Threat Upgrade NV-1715-1742
Walleye 2 Extended Range Data Link Intermediate Maintenance NV-1715-1032

Ranging
AN/AAS-33A Detecting and Ranging Set Receiver Group/Reciprocating Compressor/Infrared Indicator Intermediate Maintenance Course NV-1715-1411
Sonar Detecting-Ranging Sets AN/BQQ-5 Advanced Maintenance Revision A NV-1715-1281
Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Advanced Maintenance NV-1715-1281
Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Basic Maintenance NV-1715-1271

Rapid
Gun Maintenance 5"/54 Caliber Rapid Fire Mk 42 NV-1715-0179

RAST
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance NV-1715-1288
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance Technician NV-1715-1287
LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician NV-1715-1786

Rate
Angle Rate Bombing Set (ARBS)/Operational Test Program Set (OTPS) Intermediate Level Maintenance NV-1714-0072
Basic Electronics Rate Training NV-1715-1444

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RD-293/UYK-5 Card Reader Punch Maintenance NV-1715-0031

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Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance NV-1402-0089
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Navigation Satellite Receiver AN/WRN-5 Combined Maintenance NV-1715-0913
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AN/SRN-12/12A Omega Receiving Set Maintenance NV-1715-1064
Sonar Receiving Set AN/BQR-15 Combined Maintenance NV-1715-0912
Sonar Receiving Set AN/BQR-19 Combined Maintenance NV-1715-0990

Sonar Receiving Set AN/BQR-21(V) Combined Maintenance NV-1715-0992
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Dead Reckoning Analyzer Indicator Mk 10 Mod 0/Dead Reckoning Tracer Mk 6 Mod 4D NV-1715-1787
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AN/ASH-20A Flight Recorder/Locater System Intermediate Maintenance NV-1715-1670
AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance NV-1715-1320
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Aviation Electronic Warfare, Receivers, Analyzer, Recorder and Display Intermediate Level Maintenance NV-1715-1149
RO-358/AQS-13A Multipurpose Recorder Intermediate Maintenance NV-1715-0558

Recording
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Records
Food Service Records and Returns NV-1729-0012

Recordskeeper
Food Service Management Automated Recordskeeper NV-1729-0013
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Recovery
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Aircraft Launch and Recovery Equipment C13 Mod 1/2 Catapult NV-1704-0307
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Aircraft Launch and Recovery Equipment Maintenance Officer, Class 2 NV-1704-0308
Aircraft Launch and Recovery Equipment Maintenance Officers NV-1704-0308
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Aircraft Launch and Recovery Equipment Officer NV-1704-0300
Aircraft Launch and Recovery Equipment Officer, Class C2 NV-1704-0300
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LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance NV-1715-1288
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance Technician NV-1715-1287
LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician NV-1715-1786

Recruit
Recruit Training NV-2202-0014
NV-2202-0165

Recruiter
Recruiter Canvasser NV-1406-0016

Recruiting
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Reel
E-6A Reel Operator/Maintenance Technician NV-1704-0452
OE-159 Reel Operator/Maintenance NV-1704-0281

Reentry
Poseidon Mk 3 Reentry System Tender Transfer and Handling NV-2203-0143
Trident Mk 4 Reentry System Tender Transfer and Handling NV-2202-0144

Reference
A-7A/B Attitude Heading and Reference System Intermediate Maintenance NV-1721-0006
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LAMPS Mk 3 Horizon Reference Set Maintenance NV-1714-0048

Refrigeration
Air Conditioning and Refrigeration NV-1730-0011
Air Conditioning and Refrigeration Operation and Maintenance NV-1701-0005
Air Conditioning and Refrigeration, Class C NV-1701-0005
Air Conditioning and Refrigeration, Class C1 NV-1701-0005
Refrigeration and Air Conditioning Systems Technicians NV-1701-0019
Ship's Stores Refrigeration System R-12 Combined Maintenance NV-1730-0009
Submarine Ship Stores Refrigeration R-12 Combined Maintenance NV-1701-0010
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Refueling
Douglas Model D-704 and Sargent-Fletcher Model 31-300 Air Refueling Stores Organizational Maintenance NV-1704-0046

Regulator
General Regulator Automatic Boiler Control (ABC) Console Operator
NV-1710-0157
General Regulator Automatic Boiler Control (ABC) Maintenance
NV-1710-0155
General Regulator Automatic Boiler Control Console Operator
NV-1710-0079
General Regulator Automatic Boiler Control Maintenance
NV-1710-0072
Governor and Regulator Maintenance
NV-1710-0159
Oxygen System Component Test Stand/Oxygen Regulator Repair
NV-1704-0436
Steam Plant Automatic Controls Maintenance (General Regulator)
NV-1710-0072

Regulators
Auxiliary Machinery Controls, Governors and Regulators Maintenance
NV-1710-0086
Generator Regulators, Class F1
NV-1715-0901

Reinforcing
Forming and Reinforcing
NV-1710-0165

Relay
Relay Transmitter Mk 60 Maintenance
NV-1715-0389
Relay Transmitter Mk 60 Mod 0 Maintenance UFCG Mk 114 Mods 9-12
NV-1715-0389

Religious
Religious Program Specialist (Advanced), Class C
NV-1406-0025
Religious Program Specialist, Class A
NV-1406-0024
Religious Program Specialist, Class C (Computer Applications)
NV-1402-0175
Religious Program Specialist, Class C (Ministry Support)
NV-1408-0037
Religious Program Specialist, Class C (Religious Education)
NV-1406-0026

Remote
AN/FRT-83, 84, 85 Radio Transmitters with the AN/FSO-98 Remote Control System
NV-1715-1528
Remote Information Exchange Terminal Operator
NV-1409-0009
Remote Pressure/Tank Level/Liquid Airflow Indicating Equipment Maintenance
NV-1715-1305
Remote Sensor System for Physical Security, Class C1
NV-1721-0001
US Marine Corps Remote Sensor Operator
NV-1715-1300
US Marine Corps Remote Sensor Operator Reserve (Phases 1 and 2)
NV-1715-1299

Repeater
AN/SPA-25G and CV-3989/SG Repeater Maintenance
NV-1715-1337

Replenishment
Standard Tensional Replenishment Alongside Methods (STREAM) Operator
NV-1710-0112
Underway Replenishment Mechanical and Hydraulic Component Maintenance
NV-1710-0113

Reporting
Army Court Reporting
NV-1728-0046
Coast Guard Court Reporting
NV-1728-0048

Reproducer
AN/AQH-1 Tape Recorder/Reproducer Set Intermediate Maintenance
NV-1715-0191
AN/AQH-4 and AN/AQH-4(V)2 Sound Recorder/Reproducer Set Intermediate Maintenance
NV-1715-1578
AN/UYH-4 Recorder Reproducer
NV-1715-1617

Rescue
Aircraft Firefighting and Rescue, Class A1
NV-1728-0006
Rescue Swimmer, Class C
NV-0803-0004
Rescue Swimming Refresher, Class F1
NV-0803-0003

Reserve
Electronics Technician Submarine/Reserve, Class A1
NV-1715-1071
Intelligence Specialist, Class A, Operational Intelligence Reserve, Phases 1 and 2
NV-1511-0032
Intelligence Specialist, Class A, Reserve (ISA-RES)
NV-1606-0075
Interrogation of Prisoners of War, Reserve, Phase 1
NV-1728-0037
Interrogation of Prisoners of War, Reserve, Phase 2
NV-1728-0038
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 1
NV-1728-0039
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 2
NV-1728-0040
Marine Air-Ground Task Force Counterintelligence, Reserve, Phase 3
NV-1728-0041
Marine Air-Ground Task Force Intelligence Officer Reserve, Phases 1 and 2
NV-1511-0029
Marine Air-Ground Task Force Intelligence Specialist Reserve (Phases 1 and 2)
NV-1511-0030
Naval Reserve Senior Officer Tactics
NV-2202-0117
Reserve Aerographer's Mate Advanced Forecaster Module D
NV-1304-0020
Reserve Aerographer's Mate Forecaster Module A
NV-1304-0017
Reserve Aerographer's Mate Forecaster Module B
NV-1304-0018
Reserve Aerographer's Mate Forecaster Module C
NV-1304-0019
Reserve Army Court Reporting
NV-1728-0047
Reserve Legalman, Phase 1
NV-1728-0024
Reserve Legalman, Phase 2
NV-1728-0025
Reserve Legalman, Phase 3
NV-1728-0026
Reserve Swimmer Instructor Training, Class P
NV-1406-0033
US Marine Corps Remote Sensor Operator Reserve (Phases 1 and 2)
NV-1715-1299

Resource
Human Resource Management Specialist
NV-0326-0003

Retrieval
Afloat Storage and Retrieval Operator
NV-1402-0100
Naval Intelligence Processing System (NIPS) Afloat Storage and Retrieval Operator
NV-1402-0100

Returns
Food Service Records and Returns
NV-1729-0012

Rigging
E-2/C-2 Aircraft Rigging Organizational Maintenance
NV-1704-0362
F-14A/A+ Wing Surface Control System Rigging Organizational Maintenance
NV-1704-0367

RO-358/AQS-13A
RO-358/AQS-13A Multipurpose Recorder Intermediate Maintenance
NV-1715-0558

Roofing
Roofing
NV-1710-0164

Rotor
H-46 Fiberglass Rotor Blade Repair Intermediate Maintenance
NV-1704-0395
NV-1704-0396
SH-2F Power Plants, Related Systems, and Rotor Systems Organizational Maintenance
NV-1704-0336

Rotors
MH-53 Rotors and Related Systems Organizational Maintenance
NV-1704-0334

RSX-11M
Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C
NV-1402-0110

RT-1010/ASQ-140
AN/ARC-51, 51A, 51AX, 51B, RT-793/ASQ and RT-1010/ASQ-140 Communication Systems Intermediate Maintenance
NV-1715-0710

RT-46
AN/VRC-46 and RT-46 Transceiver System Maintenance
NV-1715-0249

RT-541
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-

19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance NV-1715-0797

RT-542/ASQ
RT-542/ASQ, RT-546/ASQ-19, AN/ARC-52 Receiver Transmitter Intermediate Maintenance NV-1715-1218

RT-546/ASQ-19
RT-542/ASQ, RT-546/ASQ-19, AN/ARC-52 Receiver Transmitter Intermediate Maintenance NV-1715-1218

RT-547
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance NV-1715-0797

RT-648/ARC-94
RT-648/ARC-94 RT-698/ARC-102 High Frequency Transmitter Intermediate Maintenance NV-1715-1724

RT-698/ARC-102
RT-648/ARC-94 RT-698/ARC-102 High Frequency Transmitter Intermediate Maintenance NV-1715-1724

RT-712/ARC
RT-712/ARC High Frequency Radio Intermediate Maintenance NV-1715-1625

RT-793
AN/ARC-51, 51A, 51AX, 51B, RT-793/ASQ and RT-1010/ASQ-140 Communication Systems Intermediate Maintenance NV-1715-0710

S-3A
Aviation Machinist's Mate, Class A (S-3A), Power Plant Systems NV-1703-0014
S-3A Armament Control and Delivery System Organizational Maintenance NV-2202-0111
S-3A Computer System Specialist Organizational Maintenance NV-1715-1194
S-3A Electrical System Intermediate Maintenance NV-1714-0034
S-3A Electrical Systems Organizational Maintenance NV-1714-0033
S-3A Electronic Systems Organizational Maintenance NV-1715-1196
S-3A Environmental Control, Miscellaneous Utilities and Egress Systems Organizational Maintenance NV-1730-0007
S-3A Power Plant and Related Systems Organizational Maintenance NV-1704-0287
S-3A Structure, Hydraulic, and Flight Control Systems Organizational Maintenance NV-1704-0288

SACE
E-2A Computer Indicator Semi-Automatic Checkout Equipment (SACE) Operation and Maintenance NV-1715-0318
Semi-Automatic Checkout Equipment (SACE) with INS/AFCS/ADC/UE Test Benches Intermediate Maintenance NV-1715-1205
TS-2109/ASA-48 Semi-Automatic Checkout Equipment (SACE) Programmer Intermediate Maintenance NV-1715-1206
TS-2109/OA-3739/OA-ASA 48 Semi-Automatic Checkout Equipment (SACE) Operator Intermediate Maintenance NV-1715-1209
TS-2109/OA-3742/OA-6672 Semi-Automatic Checkout Equipment (SACE) Intermediate Operators NV-1715-1216

Safety
AV-8B Aircraft Safety Equipment Mechanic Integrated Organizational Maintenance NV-1704-0401
Aviation Structural Mechanic (Safety Equipment), Class A1 NV-1704-0325
Aviation Structural Mechanic E (Safety Equipment) Common Core, Class A1 NV-1704-0438
Aviation Structural Mechanic E (Safety Equipment) Egress Strand, Class A1 NV-1704-0439
EA-6B Safety Equipment Organizational Maintenance NV-1704-0410
F/A-18 Safety Equipment SJU-S/A Ejection Seat Organizational Maintenance NV-1606-0084
Navy Alcohol/Drug Safety Action Program (NASAP/NDSAP) NV-0799-0007

Sail
Universal Cryptologic Processor Training Classic Bowsprit Sail Maintenance NV-1402-0107

Salinity
Common Alarm, Temperature Monitoring and Salinity Systems Equipment Maintenance NV-1715-1306

Salvage
Salvage/Construction Demolition Diver NV-1710-0169
Ship Salvage Diving Officer NV-1606-0065

Sargent-Fletcher
Douglas Model D-704 and Sargent-Fletcher Model 31-300 Air Refueling Stores Organizational Maintenance NV-1704-0046

Satellite
AN/SRN-9/18 Satellite Radio Navigation Sets Combined Maintenance NV-1715-1098
AN/WRN-5A Satellite Navigation Set Maintenance NV-1715-1593
AN/WSC-3 Satellite Communications Set and OE-82B/WSC-1(V) Antenna Group NV-1715-0876
Commercial Satellite Equipment Maintenance NV-1715-1866
Fleet Satellite Communications Spectrum Monitor System Equipment NV-1715-1099
Navigation Satellite Receiver AN/WRN-5 Combined Maintenance NV-1715-0913
OM-55/USC Super High Frequency Satellite Communication Modular Demodulator Group Maintenance NV-1715-1346
Satellite Navigation System AN/WRN-5 NV-1715-0913
Satellite Receiver AN/WRN-5 Combined Maintenance, Class C-1 NV-1715-0913
Submarine Satellite Information Exchange Subsystem 2 (SSIXS 2) Maintenance NV-1715-1777
Submarine Satellite Information Exchange Subsystem Combined Maintenance NV-1715-1471
Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator NV-1715-1778

SB-1505
AN/SPA-25/-25(B) Radar Indicator and SB-1505 Switchboard Maintenance NV-1715-0029

SB-4220/SP
SB-4220/SP Radar Signal Distribution Switchboard Maintenance NV-1715-1592
SB-4220/SP Switchboard Maintenance NV-1715-1592

Scanner
AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance NV-1715-1632
Sonar Scanner System Basic Operator NV-2202-0155

Scene
Antisubmarine Warfare (ASW) Scene of Action NV-2202-0161

Science
Naval Science Institute NV-2202-0109

Scrubber
Carbon Dioxide Scrubber and Carbon Monoxide/Hydrogen Burner Combined Maintenance NV-1732-0013

Scuba
Scuba Diver NV-1606-0011 NV-1606-0080
SEAL Scuba Diving Supervisor NV-1606-0078
Submarine Scuba Diver NV-1606-0080

SD/P
SD/P Elevator System Maintenance Technician NV-1714-0045

Sea
Aviation Boatswain's Mate Handling, Class A1 (Sea Track) NV-1728-0019
Aviation Boatswain's Mate Handling, Class C1, (Sea Track) NV-1704-0301
Deep Sea Divers NV-1606-0014

Deep Sea Diving Independent Duty Corpsman
NV-0702-0013
Deep Sea Diving Independent Duty Corpsman, Class C
NV-0702-0013
Deep Sea Helium-Oxygen Diving Officer
NV-1606-0009
Medical Deep Sea Diving Technician
NV-0803-0010
NV-1606-0014
Radioman, Class A, Sea Duty
NV-1404-0009

SEAL
Basic Underwater Demolition/SEAL Training
NV-0804-0001
SEAL Delivery Vehicle Electronic Maintenance
NV-1715-1560
SEAL Scuba Diving Supervisor
NV-1606-0078

Seaman
Seaman Apprentice
NV-2202-0171

Search
3D Radar Search AN/SPS-39A
NV-1715-1390
AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance
NV-1715-1419
AN/APS-115B Search Radar System Intermediate Maintenance
NV-1715-1681
AN/APS-116 Search Radar and Peculiar Ground Support Equipment Intermediate Maintenance
NV-1715-1191
AN/SPS-40E Air Search Radar Set Maintenance
NV-1715-1335
E-2 Search Radar Set (Transmitter) Intermediate Maintenance
NV-1715-1518
E-2A AN/APS-96 Search Radar Intermediate Maintenance
NV-1715-0672
Explosive Ordnance Disposal Sonar Search System Basic
NV-2202-0155
P-3 AN/APS-80 Search Radar System Maintenance
NV-1715-0695

Seasparrow
NATO Seasparrow 7M Difference Maintenance
NV-1715-1403
NATO Seasparrow 7M Maintenance
NV-1715-1394
NATO Seasparrow Surface Missile System Officer
NV-1715-1389

Second Degree
T56-A-425/426 Engine Second Degree Intermediate Maintenance
NV-1704-0370

Section
Section Leader, Class C1
NV-1205-0008

Secure
AN/SXQ-8(V)2 Secure Closed Circuit Television System Maintenance
NV-1709-0021
Narrow Band Secure Voice Stand Alone Maintenance
NV-1715-1100
Narrowband Secure Voice Stand Alone Maintenance
NV-1715-1100

Securing
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance
NV-1715-1288
LAMPS Mk 3 Recovery Assist Securing and Traversing (RAST) Maintenance Technician
NV-1715-1287
LAMPS Mk 3 Recovery Assist, Securing and Traversing (RAST) Electrical Technician
NV-1715-1786

Security
Electronic Security Systems Maintenance (ESSM), Class C
NV-1721-0013
National Security Decision Making for College of Naval Command and Staff
NV-1511-0015
National Security Decision Making for College of Naval Warfare and Naval Command College
NV-1511-0014
National Security Decision Making Nonresident Seminar
NV-1511-0026
Naval Security Group Maintenance Management System Application Analyst
NV-1715-1257
Naval War College Correspondence Course in National Security Decision Making
NV-1511-0010
Navy Security Guard, Class C1
NV-1728-0021
Network Security and Vulnerabilities Technician
NV-1402-0251
Remote Sensor System for Physical Security, Class C1
NV-1721-0001

Semi-Automatic
Semi-Automatic Checkout Equipment (SACE) with INS/AFCS/ADC/UE Test Benches Intermediate Maintenance
NV-1715-1205
TS-2109/ASA-48 Semi-Automatic Checkout Equipment (SACE) Programmer Intermediate Maintenance
NV-1715-1206
TS-2109/OA-3739/OA-ASA 48 Semi-Automatic Checkout Equipment (SACE) Operator Intermediate Maintenance
NV-1715-1209
TS-2109/OA-3742/OA-6672 Semi-Automatic Checkout Equipment (SACE) Intermediate Operators
NV-1715-1216

Seminar
Maritime Operations Employment of Naval Forces Nonresident Seminar
NV-2202-0134

Senior
Marine Aviation Supply Senior Enlisted
NV-1405-0026
Naval Reserve Senior Officer Tactics
NV-2202-0117
Senior Aviation Maintenance Officer, Class C2
NV-1406-0031
Senior Disbursing Clerk Enlisted Refresher
NV-1401-0005
Senior Enlisted Academy
NV-2202-0110
Senior Enlisted Damage Control
NV-1728-0023
Senior Enlisted Engineering Management
NV-1732-0025
Senior Enlisted Propulsion Engineering
NV-1732-0014
Senior Enlisted Propulsion Engineering (Steam, Gas Turbine, Diesel)
NV-1732-0014
Senior Legalman
NV-1728-0030
Senior Non-Morse Analysis
NV-1715-1258
Senior Quartermaster Refresher
NV-2202-0150

Sensor
P-3C Integrated Avionics System Sensor Station 3 Integrated Organizational Maintenance
NV-1715-1679
P-3C Integrated Avionics System Sensor Station One and Two Systems Integrated Organizational Maintenance
NV-1715-1673
P-3C Integrated Avionics System Sensor Station One and Two Systems Organizational Maintenance
NV-1715-1673
P-3C Integrated Avionics System Sensor Station Three Systems Organizational Maintenance
NV-1704-0350
P-3C Sensor Station 1 and 2 AN/AQA-7(V)10 Integrated Organizational Maintenance
NV-1715-1674
P-3C Sensor Station 1 and 2 AN/AQA-7(V)10 Organizational Maintenance
NV-1715-1674
P-3C Sensor Station One and Two (Acoustic Systems Technician) Organizational Maintenance
NV-1715-0256
P-3C Sensor Station Three (Radar/Display)Technician Organization Maintenance
NV-1715-0640
P-3C Sensor Station Three System Organizational Maintenance
NV-1715-0640
P-3C Update 3 Sensor Stations 1 and 2 Integrated Organizational Maintenance
NV-1715-1675
P-3C Update 3 Sensor Stations 1 and 2 Organizational Maintenance
NV-1715-1675
Remote Sensor System for Physical Security, Class C1
NV-1721-0001
SG-791/ARR-72(V) Acoustic Sensor Signal Generator Intermediate Maintenance
NV-1715-1565
Surveillance Towed Array Sensor System (SURTASS) Shore
NV-1715-1499
US Marine Corps Remote Sensor Operator
NV-1715-1300

- US Marine Corps Remote Sensor Operator Reserve (Phases 1 and 2) NV-1715-1299

Service
- Food Service Administration NV-1729-0014
- Food Service Management NV-1729-0013
- Food Service Management Automated Recordskeeper NV-1729-0013
- Food Service Records and Returns NV-1729-0012
- Ship's Service Turbo Generator Maintenance NV-1704-0320
- Ship's Service Turbo-Generator Maintenance NV-1704-0320

Sewing
- Advanced Sewing Machine Repair, Class F1 NV-1702-0003

SG-791/ARR-72(V)
- SG-791/ARR-72(V) Acoustic Sensor Signal Generator Intermediate Maintenance NV-1715-1565

SH-2
- SH-2 Aviation Machinist's Mate Power Plant System NV-1704-0289

SH-2F
- SH-2F Airframes, Hydraulics, and Flight Control Organizational Maintenance NV-1704-0290
- SH-2F Automatic Stabilization NV-1704-0291
- SH-2F Electrical Component Intermediate Maintenance NV-1714-0035
- SH-2F Electrical System Organizational Maintenance NV-1714-0036
- SH-2F Light Airborne Multipurpose Systems (LAMPS) Avionics Equipment Organizational Maintenance NV-1715-1515
- SH-2F Power Plants, Related Systems, and Rotor Systems Organizational Maintenance NV-1704-0336

SH-3
- SH-3 Airframes and Hydraulic Systems Organizational Maintenance NV-1704-0047
- SH-3 Automatic Stabilization Equipment Organizational Maintenance NV-1704-0006
- SH-3 Aviation Machinist's Mate, Class A Power Plant Systems NV-1704-0297
- SH-3 Communications/Navigation Systems Organizational Maintenance NV-1715-1195
- SH-3 Electrical Components Intermediate Maintenance NV-1704-0031
- SH-3 Electrical Systems Organizational Maintenance NV-1704-0114
- SH-3 Power Plants and Related Systems Organizational Maintenance NV-1704-0139

SH-3A/D
- SH-3A/D AN/AQS-13A Sonar Intermediate Maintenance NV-1715-0747
- SH-3A/D Electrical Systems Organizational Maintenance NV-1704-0114

SH-3D/H
- SH-3D/H Power Plants and Related Systems Organizational Maintenance NV-1704-0139

SH-60B
- SH-60B Airframes and Related Systems Organizational Maintenance NV-1704-0292
- SH-60B Automatic Flight Control System Organizational Maintenance NV-1715-1197
- SH-60B Electrical System Organizational Maintenance NV-1714-0037
- SH-60B Light Airborne Multipurpose System (LAMPS) Mk 3 Weapons System Technician Organizational Maintenance NV-1715-1198
- SH-60B Power Plant and Related Systems Organizational Maintenance NV-1704-0293

SH-60F/HH-60H
- SH-60F/HH-60H Air Frames and Hydraulic Systems Consolidated Maintenance NV-1704-0344
- SH-60F/HH-60H Armament and Related Systems Consolidated Maintenance NV-1714-0060
- SH-60F/HH-60H Electrical/Instrument Systems Consolidated Maintenance NV-1704-0347
- SH-60F/HH-60H Electronic Systems Consolidated Maintenance NV-1715-1561
- SH-60F/HH-60H Non-designated Airman NV-1704-0346
- SH-60F/HH-60H Power Plants and Related Systems Organizational Maintenance NV-1704-0345

Shaft
- Propulsion Shaft Components Combined Maintenance NV-1710-0057

Shearwave
- Nondestructive Testing of Metals Ultrasonic Shearwave Inspection, Class C1 NV-1724-0005
- Ultrasonic Shearwave Inspector NV-1710-0148

Ship
- Amphibious Assault Ship Aircraft Inertial Alignment System NV-1715-1714
- AN/UYK-7 FFG-7/36/61 Class Ship Computer/Peripheral Maintenance NV-1402-0216
- DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator NV-1601-0025
- Electrician's Mate Surface Ship Electrician Advanced Maintenance NV-1715-1295
- FFG-7 Class Ship Auxiliary Electrical Subsystem NV-1714-0043
- FFG-7 Class Ship Auxiliary Electrical Subsystem Technician NV-1714-0030
- FFG-7 Class Ship Auxiliary Electrical System Technician NV-1732-0010
- FFG-7 Class Ship Interior Communications (IC) Subsystems Technician NV-1715-1075
- FFG-7 Class Ship Replacement Crew Training NV-1715-1231
- Force/Ship Weapons Coordinator Tactical Training NV-2202-0121
- Interior Communications Surface Ship Electrical Advanced NV-1715-1296
- Ship Control System Maintenance NV-1715-1308
- Ship Launched Cruise Missile Tomahawk Weapon Control System Operation and Maintenance NV-1402-0156
- Ship Salvage Diving Officer NV-1606-0065
- Ship Silencing Team NV-1715-1801
- Ship Silencing Team Analyst NV-1715-1801
- Shipboard Non-Tactical Automated Data Processing (SNAP 2) Ship System Coordinator NV-1715-1547
- Trident Ship Control and Atmosphere Support Technician Level I NV-1715-1309

Ship's
- Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7 NV-1715-1376
- Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration NV-1715-1374
- DD-963 Class Ship's Computer/Peripheral Subsystem Maintenance NV-1402-0215
- Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
- Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System NV-1715-0065
- Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Combined Maintenance NV-1715-1461
- Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426
- Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance (Enlisted) NV-1715-0426
- Mk 3 Mod 7 Ship's Navigation and Aircraft Inertial Alignment Systems (SNAIAS) Operation and Maintenance NV-1715-1061
- Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration NV-1715-0202
- Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Control Theory NV-1715-0232
- Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Equipment Technician Replacement NV-1715-1393

Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance I
NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance II
NV-1715-1002
Ship's Inertial Navigation System (SINS) Mk 2 Mod 7 Technician Replacement
NV-1715-1380
Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2
NV-1715-1369
Ship's Inertial Navigation System (SINS) Theory and Analysis
NV-1107-0002
Ship's Inertial Navigation System (SINS) Theory and Maintenance 2
NV-1715-1369
Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance
NV-1715-1230
Ship's Navigation and Aircraft Inertial Alignment Systems Maintenance
NV-1715-1061
Ship's Service Gas Turbine Generator Module (Allison 501) Maintenance, Class C1
NV-1703-0009
Ship's Service Turbo Generator Maintenance
NV-1704-0320
Ship's Serviceman, Class A
NV-1405-0001
NV-1405-0028
Ship's Servicemen Recordskeeper
NV-1405-0001
Ship's Store Afloat Resale Operation Management (ROM) System Supervisor
NV-1408-0031
Ship's Store Afloat Resale Operation Management System User
NV-1405-0023
Ship's Stores Refrigeration System R-12 Combined Maintenance
NV-1730-0009
SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance
NV-1715-0426
Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance
NV-1715-1312
Trident 1 Ship's Inertial Navigation System (SINS) Equipment
NV-1715-1379
Trident Ship's Control Level 2
NV-1715-1172
Trident Ship's Control Level 3
NV-1715-1173

Shipboard
AN/UYK-65(V) Shipboard Non-Tactical Automated Data Processing (SNAP-1) Maintenance System
NV-1402-0219
Basic Shipboard Intelligence
NV-1606-0072
Integrated Shipboard Maintenance Support
NV-1405-0022
Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance
NV-1715-1741
Navigation Officer (Shipboard) and Celestial, Class C2
NV-2202-0107
Shipboard Barber
NV-1726-0001
Shipboard Gage Calibration Program Standards Maintenance
NV-1601-0034
Shipboard Gauge Calibration Program Standards Maintenance
NV-1601-0034
Shipboard Information, Training, and Entertainment (SITE)
NV-1715-1230
Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE)
NV-1715-1230
Shipboard Instructor
NV-1406-0013
Shipboard Intelligence Analyst
NV-1511-0021
Shipboard Non-Tactical Automated Data Processing (SNAP 2) Ship System Coordinator
NV-1715-1547
Shipboard Non-Tactical Automated Data Processing (SNAP 3) System Administration
NV-1402-0232
Shipboard Non-Tactical Automated Data Processing (SNAP)
NV-1715-1265
Shipboard Non-Tactical Automated Data Processing (SNAP) Basic Operator, Class C1
NV-1402-0172
Shipboard Non-Tactical Automatic Data Processing (SNAP 1) System Enlisted Supervisor/Operator
NV-1402-0150
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat
NV-1402-0152
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) System Coordinator
NV-1402-0151
Shipboard Non-Tactical Automatic Data Processing (SNAP) 3-M Coordinator/Inspector
NV-1402-0153
Shipboard Nontactical Automatic Data Processing (ADP) Program 2 (SNAP 2) AN/UYK-62(V) Maintenance
NV-1402-0131
Shipboard Uniform Automated Data Processing System Real Time Operations and Management
NV-1402-0149

Shipping
Naval Control of Shipping
NV-2202-0162
Naval Control of Shipping Advanced
NV-2202-0164

Shop
Advanced Milling and Shop Management, Class C1
NV-1736-0004
AN/USM(V) Versatile Avionics Shop Test (VAST) Operator
NV-1402-0176
AN/USM-247(V) Versatile Avionic Shop Test (VAST) On Line Intermediate Maintenance
NV-1715-1630

Shore
Radioman, Class A, Shore Duty
NV-1404-0008
Shore Communication Systems Maintenance
NV-1715-1525
Shore Communications Maintenance Technician
NV-1715-1709
Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator
NV-1715-1778
Surveillance Towed Array Sensor System (SURTASS) Shore
NV-1715-1499
Universal Cryptologic Processor Training Shore Cryptologic Support System VAX Maintenance
NV-1402-0182
Utilitiesman Shore Based Boiler Controls Technician, Class C
NV-1710-0133
Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator
NV-0505-0001
Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator
NV-0505-0004

SIGINT
Mobile Systems Technical Data Facility/SIGINT Classification of Recognized Emitters Maintenance
NV-1402-0181
SIGINT Classification of Recognized Emitters
NV-1402-0183

Signal
AN/APR-39(V)1 Radar Signal Detecting Intermediate Maintenance
NV-1715-1731
AN/SPA-25G Radar Indicator and CV-3989/SP Signal Converter Maintenance
NV-1715-1337
CM-453/ALQ-99D(V) and CM-484/ALQ-99F(V) Signal Comparator-Converters Intermediate Maintenance
NV-1715-1614
Radar Signal Processing Equipment (RSPE) Maintenance Mk 1 and Mods 1-5
NV-1715-0403
Radar Signal Processing Equipment Operational Maintenance
NV-1715-0403
SB-4220/SP Radar Signal Distribution Switchboard Maintenance
NV-1715-1592
SG-791/ARR-72(V) Acoustic Sensor Signal Generator Intermediate Maintenance
NV-1715-1565

Signalman
Advanced Signalman
NV-2202-0149
Basic Signalman
NV-2202-0054
Signalman, Class A
NV-2202-0054

Signals
Advanced Communications Signals Analysis
NV-1715-1875
Advanced Signals Analyst
NV-1715-1258
Basic Signals Analyst
NV-1715-1248
Communications Signals Collection and Processing
NV-1715-1870

Intermediate Communications Signals Analysis
NV-1715-1886

Simulator
15G20 Simulator Maintenance, Class C1
NV-1715-1186
15G21 Carrier Air Traffic Control Simulator Maintenance, Class C1
NV-1715-1187
15G21 Simulator Maintenance, Class C1
NV-1715-1187

Single
Single Audio System Maintenance
NV-1715-1602

SINS
Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7
NV-1715-1376
Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration
NV-1715-1374
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Combined Maintenance
NV-1715-1461
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance
NV-1715-0426
Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance (Enlisted)
NV-1715-0426
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Calibration
NV-1715-0202
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Control Theory
NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Equipment Technician Replacement
NV-1715-1393
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance I
NV-1715-0232
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance II
NV-1715-1002
Ship's Inertial Navigation System (SINS) Mk 2 Mod 7 Technician Replacement
NV-1715-1380
Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2
NV-1715-1369
Ship's Inertial Navigation System (SINS) Theory and Analysis
NV-1107-0002
Ship's Inertial Navigation System (SINS) Theory and Maintenance 2
NV-1715-1369
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Calibration
NV-1715-1374
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 1
NV-1715-1376
SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance
NV-1715-0426
Trident 1 Ship's Inertial Navigation System (SINS) Equipment
NV-1715-1379

Skills
Job Oriented Basic Skills (JOBS), Class AP-1, Electronics Ratings, Strand 4
NV-0501-0003
Job Oriented Basic Skills (JOBS), Class AP-1, Mechanical Ratings, Strand 7
NV-0501-0004
Job Oriented Basic Skills (JOBS), Class AP-1, Operations Ratings, Strand 2
NV-0501-0002
Job Oriented Basic Skills (JOBS), Strand 3
NV-1409-0013
Job Oriented Basic Skills, Strand 1
NV-0501-0001
Job Oriented Basic Skills, Strand 6, Electrical, Class AP
NV-1714-0063

Small
Small Boat Engine Overhaul
NV-1712-0034
Small Boat Engine Overhaul Technician
NV-1712-0045

SNAP
Shipboard Non-Tactical Automated Data Processing (SNAP 2) Ship System Coordinator
NV-1715-1547
Shipboard Non-Tactical Automated Data Processing (SNAP)
NV-1715-1265
Shipboard Non-Tactical Automated Data Processing (SNAP) Basic Operator, Class C1
NV-1402-0172
Shipboard Non-Tactical Automatic Data Processing (SNAP 1) System Enlisted Supervisor/Operator
NV-1402-0150
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat
NV-1402-0152
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) System Coordinator
NV-1402-0151
Shipboard Non-Tactical Automatic Data Processing (SNAP) 3-M Coordinator/Inspector
NV-1402-0153
Submarine SNAP 2 Combined Maintenance
NV-1402-0247

Software
Cryptologic Systems Software
NV-1402-0048
EP-3E Software Familiarization
NV-1402-0178
SSN Central Computer Complex (CCC) Maintenance Software
NV-1402-0098

Solar
Solar T-1020S-100B Gas Turbine Generator Set Operator and Maintenance
NV-1710-0095

Solid State
Basic Solid State Devices, Class F1
NV-1715-1088
Guided Missile Launching System Mk 10 Solid State Control System Difference
NV-1715-1298
Solid State Theory and Digital Electronics
NV-1715-0103
Terrier Guided Missile Launching System Mk 10 55C5 Solid State Difference
NV-1715-1298

Sonar
AN/AQA-7(V) 1, 2 and 3 Sonar Computer Recorder Group and AN/ASA-76 Generator-Transmitter Group Intermediate Maintenance
NV-1715-0774
AN/AQA-7(V)4 and AN/AQA-7(V)5 Sonar Computer Recorder Group Difference Data Intermediate Maintenance
NV-1715-1017
AN/AQA-7(V)6/7 Sonar Computer Recorder Group Difference Data Intermediate Maintenance
NV-1715-0567
AN/AQA-7A(V)10, 11, 12 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance
NV-1715-1567
AN/AQA-7A(V)8 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance
NV-1715-1566
AN/AQM-18(V)1 Thru (V)5 Sonar Computer Recorder Group Test Central and AN/AQM-20 Computer Group Power Systems Test Set Intermediate Maintenance
NV-1715-0539
AN/AQS-13B Sonar Intermediate Maintenance
NV-1715-0550
AN/AQS-13E Sonar Organizational Maintenance
NV-1715-1192
AN/BQN-3 Sonar Sounding Set Advanced Training
NV-1715-0987
AN/BQQ-5 Consolidated Sonar Maintenance
NV-1715-1281
AN/BQQ-6 Sonar Set Detection Tracking
NV-1715-1319
AN/SQQ-89(V)1/3 Sonar Watch Supervisor
NV-1715-1504
NV-1715-1851
AN/SQQ-89(V)2 Sonar Watch Supervisor
NV-1715-1506
Enlisted Sonar Principles
NV-1715-0991
Explosive Ordnance Disposal Sonar Search System Basic
NV-2202-0155
FF-1052 Sonar Supervisor
NV-1715-1503
Independent Variable-Depth Sonar Hoist AN/SQA-13(V) Maintenance
NV-1715-1285
SH-3A/D AN/AQS-13A Sonar Intermediate Maintenance
NV-1715-0747
Sonar AN/SQQ-23A PAIR Organizational Maintenance
NV-1715-1279
Sonar AN/SQQ-28(V) Maintenance
NV-1715-1280
Sonar AN/SQR-17(V)/17A(V) Series Maintenance
NV-1715-1278
Sonar AN/SQR-18A(V)1 Maintenance
NV-1715-1284
Sonar AN/SQR-19(V) Maintenance
NV-1715-1283
Sonar AN/SQS-26 AXR/CX Maintenance
NV-1715-1275
Sonar AN/SQS-26 BX Maintenance
NV-1715-1277

Sonar AN/SQS-35(V) Maintenance NV-1715-1272
Sonar AN/SQS-38 Maintenance NV-1715-1282
Sonar AN/SQS-53 Maintenance NV-1715-1276
Sonar AN/SQS-53B (Level 2) Maintenance, Class C NV-1715-1273
Sonar AN/SQS-53B Maintenance Level 2 NV-1715-1273
Sonar AN/SQS-53C Maintenance, Class C NV-1715-1853
Sonar AN/SQS-56 Maintenance NV-1715-1855
Sonar Auxiliary Equipment Combined Maintenance Revision A NV-1715-1270
Sonar Communications Set AN/WQC-2/2A Operation and Maintenance NV-1715-0166
Sonar Communications Set AN/WQC-2/2A Operation and Maintenance (Surface) NV-1715-0166
Sonar Detecting-Ranging Sets AN/BQQ-5 Advanced Maintenance Revision A NV-1715-1281
Sonar Detecting/Ranging Sets, AN/BQQ-5 Series Combined Advanced Maintenance NV-1715-1281
Sonar Receiving Set AN/BQR-15 Combined Maintenance NV-1715-0912
Sonar Receiving Set AN/BQR-19 Combined Maintenance NV-1715-0990
Sonar Receiving Set AN/BQR-21(V) Combined Maintenance NV-1715-0992
Sonar Receiving Set AN/BQR-23 Basic Maintenance NV-1715-1466
Sonar Scanner System Basic Operator NV-2202-0155
Sonar Sounding Set AN/BQN-17 Combined Maintenance NV-1715-1003
Sonar Sounding Set AN/BQN-3 Maintenance NV-1715-0987
Sonar Sounding Set AN/BQN-3J Maintenance NV-1715-1368
Sonar Surface Technician, Class A NV-1715-0423
Sonar Technician Submarine STS, Class A NV-1715-1274
Sonar Technician, Class A NV-1715-1274
SSBN Sonar Combined Maintenance NV-1715-1269
Submarine Sonar Technician Unique Electronics NV-1715-1550
Surface Sonar AN/SQS-56 Operations NV-1715-0235
Surface Sonar Set AN/SQS-56 Maintenance NV-1715-0272
Surface Sonar Technician, Class A NV-1715-1856
Trident Sonar Advanced Operator NV-2202-0136
Trident Sonar Subsystem Operation and Maintenance Level 2 NV-1715-1315
Trident Sonar Subsystem Operation and Maintenance Level 3 NV-1715-1314
Trident Sonar Subsystem Operation and Maintenance Level I NV-1715-1313
Trident Sonar Supervisor NV-2202-0137
Trident Sonar Technician Submarine (STS) Consolidated Maintenance NV-1715-1811

Sonobuoy
Integrated AN/SQR-19(V) Towed Array and AN/SQQ-28(V) Sonobuoy Sensors Maintenance NV-1715-1857

Sound
AN/AQH-4 and AN/AQH-4(V)2 Sound Recorder/Reproducer Set Intermediate Maintenance NV-1715-1578

SPALT
AN/BQR-15 SPALT 9080 Operations and Maintenance NV-1715-1467

Special
Special Communications Equipment Combined Maintenance NV-1715-1475
Special Operations Technician NV-0709-0022

Spectrum
AN/BQQ-6 Group A Multipurpose Interface Unit Digital Spectrum Analyzer Advanced Maintenance NV-1715-1318
Fleet Satellite Communications Spectrum Monitor System Equipment NV-1715-1099

Spherical
AN/BQQ-6 Group A Interference Rejection Processor/Spherical Array, Passive Processor/Precision Data Recorder Advanced Maintenance NV-1715-1320
AN/BQQ-6 Group A Preamplifier, Filter, Equalizer, Clipper (PFEC)/Spherical Array, Passive Beamforms (SAPB) Maintenance NV-1715-1316

Splicing
Construction Electrician Power and Communications Cable Splicing NV-1714-0059

Spruance
DD-963 Spruance Class Destroyer Radio Communications Systems Maintenance NV-1715-0870

Squadron
Aviation Squadron Electronic Warfare (EW) Officer, Class A2 NV-1715-0831

SSBN
Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065
SSBN Sonar Combined Maintenance NV-1715-1269

SSM
SSM Automatic Degaussing Equipment Maintenance for the DD-963 NV-1601-0017
SSM Automatic Degaussing System Maintenance for DD-963 Class NV-1714-0085
SSM Degaussing System for DD-963 Class Destroyer, Class C1 NV-1601-0017

SSN
Navigation Technician Type I SSN-637 NV-1715-0979
SSN Central Computer Complex (CCC) Maintenance Software NV-1402-0098
SSN Mk 3 Mod 6 Ship's Inertial Navigation System (SINS) Maintenance NV-1715-0426

SSN/SSBN
SSN/SSBN Electronic Hovering and Depth Control Combined Maintenance NV-1715-0934

Stabilization
SH-2F Automatic Stabilization NV-1704-0291
SH-3 Automatic Stabilization Equipment Organizational Maintenance NV-1704-0006

Stabilized
AN/WSN-2 Stabilized Gyrocompass Maintenance, Class C1 NV-1715-1067

Stabilizer
AN/WSN-2 Stabilizer Gyrocompass Maintenance NV-1715-1790
FFG-7 Fin Stabilizer Systems NV-1704-0390

Staff
Convoy Commodore and Staff Officer NV-2202-0163
Maritime Operations for College of Naval Command and Staff NV-2202-0133
National Security Decision Making for College of Naval Command and Staff NV-1511-0015
Naval Staff College NV-1511-0034
Strategy and Policy (College of Naval Command and Staff) NV-1511-0013

Stand-Alone
AN/WSC-3 Stand-Alone Maintenance NV-1715-0876

Standard
AN/UGC-143A(V) Navy Standard Teleprinter Maintenance NV-1715-1610

Standards
Shipboard Gage Calibration Program Standards Maintenance NV-1601-0034
Shipboard Gauge Calibration Program Standards Maintenance NV-1601-0034

Static
5Kw Static Inverter Combined Maintenance NV-1715-1460
Application of Static Control Devices NV-1715-1449

FFG-7/DD-963 60/40 Hertz Static Frequency Converter Maintenance
NV-1714-0029
Static Control Device Theory
NV-1715-1468
Static Inverter 5Kw Combined Maintenance
NV-1715-1460

Station
AN/APM-446 Radar Set Test Station Operator/Maintainer Intermediate Maintenance
NV-1715-1701
AN/AWM-23 (AN/AWG-9) Radio Frequency Test Station (RFTS) Intermediate Maintenance
NV-1715-1635
OJ-621A/AWM-23(V) (AWG-9) Module Test Station (MTS) Intermediate Maintenance
NV-1715-1633

Steam
Boiler Technician Steam Propulsion Maintenance Supervisor
NV-1710-0109
Machinist's Mate Steam Propulsion Maintenance Supervisor
NV-1704-0319
Steam Generating Plant Inspector
NV-1732-0001
Steam Generator Maintenance
NV-1732-0017
Steam Plant Automatic Controls Maintenance (Bailey Meter)
NV-1710-0074
Steam Plant Automatic Controls Maintenance (General Regulator)
NV-1710-0072
Steam Plant Automatic Controls Maintenance (Hagan)
NV-1710-0073
Surface Warfare Officer Specialty Course Steam Main Propulsion Assistant
NV-1710-0093
Valve and Steam Trap Maintenance
NV-1732-0018

Steelworker
Advanced Steelworker
NV-1723-0017
Advanced Steelworker, Class C1
NV-1723-0017

Steelworkers
Steelworkers, Class A
NV-1723-0018

Steering
Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance
NV-1715-1312

Still
Still Documentary Photography, Class C1
NV-1709-0010

Stock
L OX Converter Test Stand/LOX Converter and Stock Keeping Unit (SKU) Repair
NV-1704-0437
Uniform Automated Data Processing (ADP) System Stock Points
NV-1408-0025

Storage
Afloat Storage and Retrieval Operator
NV-1402-0100
Naval Intelligence Processing System (NIPS) Afloat Storage and Retrieval Operator
NV-1402-0100

Store
Commissary Store Management
NV-1408-0010
Ship's Store Afloat Resale Operation Management (ROM) System Supervisor
NV-1408-0031
Ship's Store Afloat Resale Operation Management System User
NV-1405-0023

Storekeeper
Advanced Aviation Storekeeper
NV-1405-0033
Aviation Storekeeper Advanced Training, Class C
NV-1405-0020
Aviation Storekeeper, Class A
NV-1405-0004
NV-1405-0027
Shipboard Non-Tactical Automatic Data Processing (SNAP 2) Storekeeper Afloat
NV-1402-0152
Storekeeper Supply Afloat (Independent Duty), Class C
NV-1405-0017
Storekeeper, Class A
NV-1405-0029
Submarine Leading Storekeeper
NV-1405-0025

Storekeepers
Storekeepers (Independent Duty), Class C
NV-1405-0017

Storeman
Construction Mechanic Repair Parts Storeman
NV-1405-0024

Stores
F/A-18 Stores Management System Organizational Maintenance
NV-1715-1706
Ship's Stores Refrigeration System R-12 Combined Maintenance
NV-1730-0009
Stores Management System Integrated Organizational Level Maintenance
NV-1715-1706

Strand
Aircrew Survival Equipmentman Intermediate Level Strand, Class A1
NV-1704-0435
Aviation Electrician's Mate Strand, Class A1
NV-1715-1820
Aviation Machinist Mate Helicopter Fundamentals Strand, Class A1
NV-1704-0430
Aviation Machinist Mate Turboprop Fundamentals Strand, Class A1
NV-1704-0431
Aviation Ordnanceman Airwing Strand, Class A1
NV-1714-0078
Aviation Ordnanceman Weapons Department Strand, Class A1
NV-1714-0079
Aviation Structural Mechanic E (Safety Equipment) Egress Strand, Class A1
NV-1704-0439
Aviation Technician Level 1 Strand, Class A1
NV-1715-1816
Aviation Technician O Level Strand, Class A1
NV-1715-1817
Aviation Technician Organizational Level Strand, Class A1
NV-1715-1817
Electronics Technician Communications Strand, Class A
NV-1715-1863

Strategic
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Command Replacement/Navigation
NV-1715-1397
Electrostatically Supported Gyro Monitor (ESGM) Backfit Strategic Weapon System Navigation Officer Replacement
NV-2205-0001
Strategic Weapon System Command Poseidon Weapons Officer
NV-1715-1395
Strategic Weapon System Officer Trident 1
NV-2202-0138
Strategic Weapons System (SWS) Electronic Mathematics
NV-1107-0001
Strategic Weapons System Assistant Weapons Officer (AWEPS) Trident 1 Backfit
NV-2202-0139
Strategic Weapons System Assistant Weapons Officer Poseidon
NV-2202-0142
Strategic Weapons System Electronic, Class A
NV-1715-1400
Strategic Weapons System Officer Poseidon
NV-2202-0141
Strategic Weapons System Support Indication Control Alarm System
NV-1715-1832
Trident 1 Backfit Strategic Weapon Systems Command Replacement
NV-1715-1398

Strategy
Naval War College Correspondence Course in Strategy and Policy
NV-1511-0011
Strategy and Policy (College of Naval Command and Staff)
NV-1511-0013
Strategy and Policy (College of Naval Warfare/Naval Command College)
NV-1511-0012
Strategy and Policy Nonresident Seminar
NV-1511-0025

STREAM
Standard Tensional Replenishment Alongside Methods (STREAM) Operator
NV-1710-0112

Strike
Afloat Strike Planning Support Systems Applications
NV-1709-0040
Afloat Strike Planning Systems Applications
NV-1709-0040
Navy Tactical Command System Afloat Strike Planning (STRIKE) Application
NV-1709-0040
Strike Armament Intermediate Maintenance Repair
NV-1715-0571
Strike Warfare Operational Intelligence (OPINTEL) Analyst
NV-1606-0067

Structural
A-6 Structural Systems Organizational Maintenance
NV-1704-0341
Aviation Structural Mechanic (Hydraulic), Class A1
NV-1704-0128
Aviation Structural Mechanic (Safety Equipment), Class A1
NV-1704-0325
Aviation Structural Mechanic (Structures), Class A1
NV-1704-0132
Aviation Structural Mechanic E (Safety Equipment) Common Core, Class A1
NV-1704-0438
Aviation Structural Mechanic E (Safety Equipment) Egress Strand, Class A1
NV-1704-0439
Aviation Structural Mechanic H (Hydraulics) Common Core, Class A1
NV-1704-0440
Aviation Structural Mechanic H (Hydraulics) Intermediate Level, Class A1
NV-1704-0442
Aviation Structural Mechanic H (Hydraulics) Organizational Level, Class A1
NV-1704-0441
Aviation Structural Mechanic H (Hydraulics), Class A
NV-1704-0128
Aviation Structural Mechanic S (Structures) Common Core, Class A1
NV-1704-0433
Aviation Structural Mechanic S (Structures), Class A
NV-1704-0132

Structure
F/A-18 Aviation Hydraulic/Structure Mechanic Consolidated Organizational Maintenance
NV-1704-0386
Noise Reduction/Structure Borne Monitoring (Noise and Vibration Monitoring System (NVMS))
NV-1721-0011
S-3A Structure, Hydraulic, and Flight Control Systems Organizational Maintenance
NV-1704-0288

Structures
A-7A/B Structures, Hydraulics, and Pneumatic Systems Maintenance
NV-1704-0190
AV-8B Aircraft Structures Mechanic Integrated Organizational Maintenance
NV-1704-0400
Aviation Structural Mechanic (Structures), Class A1
NV-1704-0132
Aviation Structural Mechanic S (Structures) Common Core, Class A1
NV-1704-0433
Aviation Structural Mechanic S (Structures), Class A
NV-1704-0132
EA-6B Hydraulic/Structures Systems Integrated Organizational Maintenance
NV-1704-0411
F/A-18 Hydraulic/Structures Mechanic Organizational Maintenance
NV-1704-0385
P-3 Structures Hydraulic Power and Flight Controls Integrated Organizational Maintenance
NV-1704-0380
P-3 Structures Hydraulic Power and Flight Controls Organizational Maintenance
NV-1704-0380

Subassembly
AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance
NV-1715-0956
Subassembly Test Console (SATC) Intermediate Maintenance
NV-1715-0956

Submarine
Basic Enlisted Submarine
NV-2202-0148
Combined Integrated Submarine Communications Antenna Subsystem Maintenance
NV-1715-1451
Electronics Technician Submarine/Reserve, Class A1
NV-1715-1071
Integrated Submarine Automated Broadcast Processing System
NV-1402-0132
Nuclear Submarine Medicine Technician
NV-0709-0001
Sonar Technician Submarine STS, Class A
NV-1715-1274
Submarine 3000 PSI Hydraulics Combined Maintenance
NV-1704-0247
Submarine Atmosphere Support System Maintenance
NV-1704-0456
Submarine Communications Equipment Combined Maintenance
NV-1715-1474
Submarine Communications Supervisor
NV-1715-1554
Submarine Digital Teletype Combined Maintenance
NV-1404-0011
Submarine Electrical Control and Distribution Equipment Combined Maintenance
NV-1714-0054
Submarine Food Service Watchstander
NV-1729-0010
Submarine Force Independent Duty Corpsman
NV-0709-0021
Submarine Force Independent Duty Corpsman, Class C
NV-0709-0021
Submarine Gyrocompass Mk 19 Mod 3 Combined Maintenance
NV-1715-0062
Submarine Hydraulic Combined Maintenance
NV-1704-0316
Submarine Interior Communications Systems
NV-1715-1549
Submarine Leading Storekeeper
NV-1405-0025
Submarine Main Power Generating Equipment
NV-1714-0053
Submarine Periscope (Optical) Repairman
NV-1715-1654
Submarine Periscope Repair
NV-1715-1636
Submarine Periscope Repair, Class C1
NV-1715-1065
Submarine Radioman, Class A
NV-1402-0168
Submarine Satellite Information Exchange Subsystem 2 (SSIXS 2) Maintenance
NV-1715-1777
Submarine Satellite Information Exchange Subsystem Combined Maintenance
NV-1715-1471
Submarine Satellite Information Exchange System Shore (SSIXS 2) Communications Operator
NV-1715-1778
Submarine Scuba Diver
NV-1606-0080
Submarine Ship Stores Refrigeration R-12 Combined Maintenance
NV-1701-0010
Submarine Shipboard Non Tactical Automated Data, Processing Program 2 Combined Maintenance
NV-1402-0247
Submarine Ships Stores Refrigeration R-12 Combined Maintenance
NV-1701-0010
Submarine SNAP 2 Combined Maintenance
NV-1402-0247
Submarine Sonar Technician Unique Electronics
NV-1715-1550
Submarine Tactical Communications Equipment Combined Maintenance
NV-1715-1477
Submarine Yeoman/Personnelman Advanced Administration
NV-1406-0021
Trident Submarine Atmospheric Support System Maintenance
NV-1731-0001
Trident Submarine Auxiliary Equipment Technician Level 2
NV-1704-0318
Trident Submarine Auxiliary Equipment Technician Level 3
NV-1712-0030
Trident Submarine Auxiliary Equipment Technician Replacement Level 1
NV-1732-0016
Trident Submarine Diesel Engine Maintenance
NV-1712-0028
Trident Submarine Hydraulic Combined Maintenance
NV-1704-0316
Type 18 Submarine Periscope (Optical) Repair
NV-1715-1636
Type 2 & 15 Submarine Periscope Repair
NV-1715-1654
Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator
NV-0505-0001
Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator
NV-0505-0004

Submarines
Electronics Technician, Class A for Attack Class Submarines
NV-1715-1556

SUBROC
SUBROC Missile Mk 28 Mod 0 Test Equipment Intermediate Maintenance
NV-1715-0795
SUBROC Missile Mk 28 Mod 1 Intermediate Maintenance
NV-1715-0794

SUBROC Missile Mk 28 Mod 1 Test Equipment Intermediate Maintenance
NV-1715-0795

Substance
Navy Substance Abuse Prevention Program
NV-0799-0007

Subsurface
Subsurface Cryptologic Maintenance
NV-1715-1867
Subsurface Cryptologic Maintenance Pipeline
NV-1715-1884
Subsurface Cryptologic Technician (CT) Augmentee Operator Pipeline
NV-1715-1480
NV-1715-1481
NV-1715-1482
Subsurface Direct Support Maintenance
NV-1715-1465

Subsystem
Command and Control Processor Subsystem Operator
NV-1402-0236
CV/CVN Combat Direction System (ASWM) Computer/Peripheral Subsystem Maintenance
NV-1402-0220
Trident Exterior Communications Subsystem Level 1 Operator
NV-1715-1808
Trident Exterior Communications Subsystem Support Subsystem Basic Maintenance
NV-1715-1809

Supervisor
Air Intercept Control Supervisor
NV-2202-0126
AN/SQQ-89(V)1/3 Sonar Watch Supervisor
NV-1715-1851
AN/SQQ-89(V)2 Sonar Watch Supervisor
NV-1715-1506
Electronic Warfare Watch Supervisor Surface
NV-1715-1237
SEAL Scuba Diving Supervisor
NV-1606-0078
Ship's Store Afloat Resale Operation Management (ROM) System Supervisor
NV-1408-0031
Torpedo Mk 48 Intermediate Maintenance Activity Supervisor
NV-1715-1491
Track Supervisor/Tadil A Track Coordinator (Advanced)
NV-2202-0118
Trident Diesel Engine Supervisor
NV-1712-0029
Trident Sonar Supervisor
NV-2202-0137

Supervisory
Mineman Supervisory and Advanced Technical Training
NV-1715-1109

Supply
Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance
NV-1704-0353
Joint Aviation Supply and Maintenance Material Management
NV-1405-0009
Marine Aviation Supply (Mechanized), Class C
NV-1405-0007
Marine Aviation Supply Mechanized, Class C1
NV-1405-0030
Marine Aviation Supply Senior Enlisted
NV-1405-0026
Marine Corps Aviation Supply Officer Qualification
NV-1408-0024
Storekeeper Supply Afloat (Independent Duty), Class C
NV-1405-0017
Supply Corps Officer Basic Qualification
NV-1405-0019
Supply Corps Officer Basic Qualification Aviation Management
NV-1405-0012
Supply Indoctrination for Line Officers
NV-1408-0026

Support
AN/AJM-32(V) Special Support Equipment Intermediate Maintenance
NV-1715-0069
AN/ALR-50 Support Equipment Intermediate Maintenance
NV-1715-1422
AN/APQ-126 Radar Set Special Support Equipment Intermediate Maintenance
NV-1715-0513
AN/APQ-126(V) Radar Set Special Support Equipment Intermediate Maintenance
NV-1715-0513
AN/APS-116 Search Radar and Peculiar Ground Support Equipment Intermediate Maintenance
NV-1715-1191
AN/USH-17(V-3)(V-7) Mission Recorder Set and AN/UPQ-5 Display Set with Ground Support Equipment Intermediate Maintenance
NV-1715-0951
AN/WLQ-4(V) Direct Support Element Basic Operator
NV-1715-1463
AN/WLR-1H(V)3/(V)5 Electronic Support Measures (ESM) Combined Maintenance
NV-1715-1648
Antisubmarine Warfare (ASW) Support Communications Maintenance Technician
NV-1715-1175
Atmosphere Support Equipment Maintenance
NV-1715-1307
Automated Tactical Reconnaissance Systems (TACRECCE) Support Afloat
NV-1709-0040
Aviation Support Equipment A/S 32P-16 Fire Fighting Truck Intermediate Maintenance
NV-1703-0016
Aviation Support Equipment A/S32A-33 Aircraft Towing Tractor Intermediate Maintenance
NV-1703-0015
Aviation Support Equipment Automatic Transmission Intermediate Maintenance
NV-1703-0010
Aviation Support Equipment Cryogenic Intermediate Maintenance
NV-1704-0255
Aviation Support Equipment Detroit Series 53 Diesel Intermediate Maintenance
NV-1712-0021
Aviation Support Equipment Diesel Engine Driven Fork Lift Trucks Intermediate Maintenance
NV-1710-0136
Aviation Support Equipment GTCP-100 and Enclosures Intermediate Maintenance
NV-1704-0109
Aviation Support Equipment GTCP-100 Engine Intermediate Maintenance
NV-1704-0109
Aviation Support Equipment LHA-1 Pallet Transporter Intermediate Maintenance
NV-1703-0017
Aviation Support Equipment Mobile Air Conditioning Intermediate Maintenance
NV-1701-0008
Aviation Support Equipment NC-10B Mobile Electric Power Plant Systems Intermediate Maintenance
NV-1715-0698
Aviation Support Equipment NC-10B/C Mobile Electric Power Plant Systems Intermediate Maintenance
NV-1715-0698
Aviation Support Equipment NC-2A Mobile Electric Power Plant Intermediate Maintenance
NV-1715-0700
Aviation Support Equipment Portable Hydraulic Power Supply Intermediate Maintenance
NV-1704-0353
Aviation Support Equipment Technician Electrical
NV-1714-0019
Aviation Support Equipment Technician, Class A1
NV-1704-0326
Aviation Support Equipment UD-282 and Detroit Series 53 Diesel Engines Intermediate Maintenance
NV-1712-0021
Carrier Based Tactical Support Center Acoustic System Maintenance
NV-1715-1537
Cryptologic Combat Support Console Maintenance
NV-1402-0194
Cryptologic Combat Support Console/Cryptologic Combat Support Operations Division Officer
NV-1404-0014
Cryptologic Combat Support Division Chief
NV-1402-0187
Cryptologic Combat Support Systems Maintenance
NV-1715-1645
Direct Support
NV-1403-0002
Direct Support Operator
NV-1715-1869
Electronic Support Measures (ESM) 637 Class Type 2 Combined Maintenance Pipeline
NV-1715-1483
Electronic Warfare Electronic Support Measures System Maintenance, Class A
NV-1715-0780
Electronic Warfare Support Systems and Test Equipment
NV-1715-1652
Electronic Warfare Technician AN/WLR-1 Electronic Support Measures System Maintenance
NV-1715-0780
Electronic Warfare Technician, Class A (A-2), Electronic Support Measures System Maintenance
NV-1715-0780
Fire Support Man
NV-2202-0170

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Fleet Electronic Support Maintenance, Class C1 NV-1715-1251
Ground Support Equipment GTC-85 Intermediate Maintenance NV-1703-0011
Ground Support Equipment Tow Tractor Charging, Starting and Ignition Systems Intermediate Maintenance NV-1704-0028
Missile Tube Support Equipment (Mechanical) NV-1710-0107
Religious Program Specialist, Class C (Ministry Support) NV-1408-0037
Subsurface Direct Support Maintenance NV-1715-1465
Tactical Oceanography Support Interpreter/Briefer, Class C NV-1715-1524
Tactical Oceanography Support Operator, Class C1 NV-1715-1523
Tactical Support Center Communications Operator NV-1715-1814
Tactical Support Center Data Processing Technician NV-1715-1238
Tactical Support Center Maintenance Technician NV-1402-0158
Trident Exterior Communications System (ECS) Support Subsystem Basic Maintenance NV-1715-1357
Trident Submarine Atmospheric Support System Maintenance NV-1731-0001
Universal Cryptologic Processor Training Shore Cryptologic Support System VAX Maintenance NV-1402-0182

Surface
AN/SQQ-89(V)1 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1508
AN/SQQ-89(V)2 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1507
AN/SQQ-89(V)2 Surface Antisubmarine Warfare Combat Systems Operator, Class C NV-1715-1507
AN/SWG-1A Harpoon Weapon System Surface Application NV-1402-0155
Basic Point Defense Surface Missile System NV-1715-0778
Electrician's Mate Surface Ship Electrician Advanced Maintenance NV-1715-1295
Electronic Warfare Officer Surface NV-2202-0115
Electronic Warfare Watch Supervisor Surface NV-1715-1237
Explosive Ordnance Disposal Phase 2 (Surface) (C1) NV-2202-0154
F-14A/A+ Wing Surface Control System Rigging Organizational Maintenance NV-1704-0367
Harpoon Weapon System AN/SWG(V)/1A(V) Engagement Planner (Surface Application) NV-1715-1538
High Frequency Surface Communications System Operator NV-1715-1348
Interior Communications Surface Ship Electrical Advanced NV-1715-1296
Intermediate Surface Acoustic Analysis NV-2202-0146
NATO Seasparrow Surface Missile System Officer NV-1715-1389
Sonar Communications Set AN/WQC-2/2A Operation and Maintenance (Surface) NV-1715-0166
Sonar Surface Technician, Class A NV-1715-0423
Surface Acoustic Analysis Specialist NV-2202-0145
Surface Electronic Warfare Officer NV-2202-0115
Surface Electronic Warfare Operations Intermediate NV-1715-1334
Surface Force Independent Duty Corpsman, Class C NV-0709-0019
Surface Microcomponent Repair NV-1715-1092
Surface Rescue Swimmer NV-0803-0013
Surface Sonar AN/SQS-56 Operations NV-1715-0235
Surface Sonar Set AN/SQS-56 Maintenance NV-1715-0272
Surface Sonar Technician, Class A NV-1715-1856
Surface Warfare Officer Advanced Command NV-1717-0018
Surface Warfare Officer Basic NV-1717-0017
Surface Warfare Officer Department Head NV-1717-0019
Surface Warfare Officer Specialty Course Steam Main Propulsion Assistant NV-1710-0093
Surface Warfare Officers Advanced Executive Command NV-1717-0020
Surface Warfare Split Tour Engineer Officer NV-1717-0016

Surgical
Surgical Technologist NV-0703-0007

SURTASS
Surveillance Towed Array Sensor System (SURTASS) Shore NV-1715-1499

Surveillance
AN/ALM-108 Surveillance Receiver Test Station AN/ALQ-99 Surveillance Receivers Intermediate Maintenance NV-1715-0054
AN/ALQ-99 Surveillance Receivers Intermediate Maintenance NV-1715-1618
AN/WLR-1H(V)3/(V)5 Electronic Surveillance Measures System Combined Maintenance NV-1715-1648
Electronic Surveillance Maintenance (ESM) AN/WLR-8(V)2 Basic Operator NV-1715-0989
Electronic Surveillance Measures (ESM) AN/BLD-1 Direction Finding Set Combined Maintenance NV-1715-1553
Electronic Surveillance Measures (ESM) AN/WLR-8(V)2 Combined Operator Maintenance NV-1715-0469
Electronic Warfare Technician AN/SLQ-32(V2) Electronic Surveillance Measures (ESM) Maintenance NV-1402-0075
Integrated Launch and Recovery Television Surveillance NV-1715-1229
Marine Corps Surveillance Radar, Class C1 NV-1715-0964
Ocean Surveillance Information System (OSIS) Baseline Upgrade Computer User NV-1402-0117
Ocean Surveillance Information System (OSIS) Baseline Upgrade System Management NV-1402-0119
Prototype Ocean Surveillance Terminal User NV-1402-0118
Surveillance Towed Array Sensor System (SURTASS) Shore NV-1715-1499

Survival
A-6A Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085
A-6E, EA-6A, and KA-6D Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0085
Aircrew Survival Equipmentman Common Core, Class A1 NV-1704-0434
Aircrew Survival Equipmentman Intermediate Level Strand, Class A1 NV-1704-0435
Aircrew Survival Equipmentman Intermediate Maintenance, Class F1 NV-1702-0003
Aircrew Survival Equipmentman, Class A1 NV-1704-0304
Aircrew Survival Equipmentman, Class C1 NV-1704-0303
Basic Water Survival Instructor NV-0803-0005
EA-6B Environmental, Escape, and Survival Systems Organizational Maintenance NV-1704-0342

Swimmer
Rescue Swimmer, Class C NV-0803-0004
Surface Rescue Swimmer NV-0803-0013

Switch
Radio Frequency Switch Matrix System Maintenance, Class C1 NV-1402-0111

Switchboard
AN/SPA-25 Series Radar Indicator, C-11300/SPA-25E Off-Centering Controller and SB-15005C/SP Switchboard Maintenance NV-1715-1586

AN/SPA-25/-25(B) Radar Indicator and SB-1505 Switchboard Maintenance NV-1715-0029
SB-4220/SP Radar Signal Distribution Switchboard Maintenance NV-1715-1592
SB-4220/SP Switchboard Maintenance NV-1715-1592

Switching
Fully Automatic Switching Terminal NV-1715-1110
Trident Exterior Communications System (ECS) Data Switching Subsystem Basic Maintenance NV-1715-1356

Synchronous
Synchronous Distributed Processor 2 NV-1715-1112

System
AN/UYX-1(V) Bright Radar Alpha-Numeric Display System (BRANDS) NV-1715-1756
LHD Exterior Communications System Maintenance NV-1402-0214
Naval Aviation Logistics Command Management Information System Aviation Maintenance Phase 3 System Administration/Analyst NV-1402-0231
Navy Tactical Command System Afloat Intelligence Center Manager NV-1402-0205

Systems
Cryptologic Combat Support Systems Maintenance NV-1715-1645
Outboard 2 Systems Maintenance NV-1715-1638
VAX Systems Maintenance Technician NV-1402-0182

T-41-A-2
T-41-A-2 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0123

T-56-A-14
P-3 T-56-A-14 Engine and Related Systems Maintenance NV-1704-0019

T-58
T-58 First Degree Maintenance NV-1704-0337

T-58GE-16
T-58GE-16 Intermediate Maintenance First Degree Repair, Class C1 NV-1710-0152

T-700-GE
T-700-GE 401 Intermediate Maintenance First Degree NV-1704-0294

T56-A-10/14
P-3 T56-A-10/14 Engine and Related Systems Organizational Maintenance NV-1704-0019
T56-A-10/14 First Degree Intermediate Maintenance NV-1704-0374

T56-A-14
T56-A-14 First Degree Intermediate Maintenance NV-1704-0374

TAC/NAV
P-3A/B TAC/NAV Mod Organizational Maintenance NV-1402-0055

TACAMO
TACAMO Communication and Avionics System Operation NV-1715-1182
TACAMO Communications System Maintenance NV-1715-1183
TACAMO UHF/HF Communications System Intermediate Maintenance NV-1715-1184
TACAMO VLF Communications and Verdin System Intermediate Maintenance NV-1715-1185

TACAN
AN/ARM-155-156 TACAN Test Sets and UN/UPM-137A Radar Test Set Calibration/Repair Intermediate Maintenance NV-1715-1562
AN/ARN-118(V) TACAN System Intermediate Maintenance NV-1715-1702
AN/ARN-52(V), AN/ARN-105 and AN/ARN-86 TACAN Navigation Sets Intermediate Maintenance NV-1715-1014
AN/SRN-15 TACAN Distance Azimuth Measuring Equipment (DAME) Maintenance NV-1715-0175
AN/URN-20 TACAN Maintenance NV-1715-1589
AN/URN-20 TACAN Maintenance (Electronics Technician, Class C1) NV-1715-0193
AN/URN-25 Afloat TACAN Maintenance NV-1715-1137 NV-1715-1587
AN/URN-25 TACAN Maintenance NV-1715-1587
TACAN Maintenance NV-1715-1532

Tactical
Air Intercept Controller Naval Tactical Data Systems (NTDS) Qualification NV-1715-1542
AN/TRQ-35(V) Tactical Frequency Management System NV-1715-1352
Antisubmarine Air Control Naval Tactical Data System (NTDS) NV-2202-0120
Antisubmarine Warfare/Tactical Air Controller NV-1715-1849
Automated Tactical Reconnaissance Systems (TACRECCE) Support Afloat NV-1709-0040
Carrier Based Tactical Support Center Acoustic System Maintenance NV-1715-1537
CV Naval Tactical Data System Input Basic NV-1715-1236
CV Naval Tactical Data Systems (NTDS) Data Utilization NV-2202-0114
DD-963 Naval Tactical Data System (NTDS) Data Utilization NV-1402-0023
DD-963 Naval Tactical Data System (NTDS) Data Utilization, Class C2 NV-1402-0023
DD-963 Naval Tactical Data Systems (NTDS) Data Input NV-1402-0010
Enlisted Tactical Applications NV-2202-0129
Force/Ship Weapons Coordinator Tactical Training NV-2202-0121
Joint Tactical Information Distribution System NV-1715-1741
Joint Tactical Information Distribution System Navy Shipboard Radio Set AN/URC-107(V)7 Organizational Level Maintenance NV-1715-1741
Naval Tactical Command System Afloat (Force Level) Maintenance NV-1715-1813
Naval Tactical Command System Afloat Maintenance NV-1402-0243
Naval Tactical Command System Afloat Maintenance 10-17 NV-1715-1813
Naval Tactical Data System (NTDS) (Data Utilization) NV-1402-0023
Naval Tactical Data System Input NV-1715-1235
Navy Tactical Command System Afloat Integrated Data Base Analyst NV-1402-0204
Navy Tactical Command System Afloat Intelligence Center Manager NV-1402-0205
Navy Tactical Command System Afloat Operator NV-1402-0242
Navy Tactical Command System Afloat Strike Planning (STRIKE) Application NV-1709-0040
Navy Tactical Command System Afloat System Administration NV-1402-0206
Navy Tactical Command System—Afloat Operational Intelligence Systems Afloat NV-1606-0087
Officer in Tactical Command Information Exchange System NV-1715-1343
Officer in Tactical Command Information Exchange System (TADIX Maintenance) NV-1715-1343
Plotting System PT-512/S Tactical Display Maintenance NV-1715-1136
Submarine Tactical Communications Equipment Combined Maintenance NV-1715-1477
Tactical Action Officer NV-2202-0123
Tactical Aircraft Mission Planning System (TAMPS) System Administrator NV-1402-0207
Tactical Communications for Naval Embarked Advisory Teams NV-1404-0013
Tactical Intelligence (TACINTEL) Communications Subsystem Maintenance NV-1715-1247
Tactical Intelligence (TACINTEL) System Maintenance NV-1715-1247
Tactical Intelligence Operator NV-1402-0185

Tactical Oceanography Support Interpreter/Briefer, Class C NV-1715-1524
Tactical Oceanography Support Operator, Class C1 NV-1715-1523
Tactical Support Center Communications Operator NV-1715-1814
Tactical Support Center Data Processing Technician NV-1715-1238
Tactical Support Center Maintenance Technician NV-1402-0158
Tactical Support Communications Maintenance Technician NV-1715-1533

Tactics
Naval Reserve Senior Officer Tactics NV-2202-0117

Tank
Remote Pressure/Tank Level/Liquid Airflow Indicating Equipment Maintenance NV-1715-1305

Tape
AN/AQH-1 Tape Recorder/Reproducer Set Intermediate Maintenance NV-1715-0191
AT 1161 X 42640 Miltope Magnetic Tape Transport Unit Intermediate Maintenance NV-1715-1628
ATM13-II Magnetic Tape Transport Unit (MTTU) Intermediate Maintenance NV-1715-1629
Magnetic Tape Input/Output Device MX-7988A and B/UYK Maintenance NV-1715-1454
Magnetic Tape Input/Output Device MX-7988A,B UYK Maintenance NV-1715-1454
Magnetic Tape Unit Advanced Training NV-1715-1000
OA-9008 Magnetic Tape Control Unit and Magnetic Tape Transport NV-1715-1033
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Integrated Organizational Maintenance NV-1715-1672
P-3C RD-319/AYA-8, RD-319A/AYA-8 Magnetic Tape Transports and MX-8024/AYA-8 Data Processing System Two Organizational Maintenance NV-1715-1672

Target
Mk 23 Mod 0/1 Target Acquisition System (TAS) Maintenance NV-1715-1037
Mk 23 Target Acquisition System NV-1715-1738
Target Data Processing (TDP) Maintenance, Class C NV-1402-0129

Tartar
Tartar CGN-36 Baseline Medium Range Missile Systems Technician NV-1715-1739
Tartar Guided Missile Launching System (GMLS) Mk 11 Maintenance, Class C1 NV-1715-1081
Tartar Guided Missile System Mk 13 Maintenance, Class C1 NV-1715-1082
Tartar Medium Range Missile System Officer New Threat Upgrade NV-1715-1742
Tartar Missile Fire Control Systems (MFCS) Mk 74 Mods 4/5/8 NV-1715-0847
Tartar Officer Advanced NV-1715-0572
Tartar Radar AN/SPG-51C Digital NV-1715-0512
Tartar Weapons Direction System (WDS) Mk 4 WDE Mk 1 NV-1715-1391
Tartar Weapons Direction System Mk 13 Mod 4 NV-1715-1264
Tartar Weapons Direction System Mk 14 Mod 5 (NTU) NV-1402-0228
Tartar Weapons Officer NV-1715-0572
Tartar Weapons System Mk 74 Mod 6 NV-1715-1384
WDS Mk 14 Communications Tracking Set SYR-1 Maintenance Tartar NV-1715-1266

Team
Ship Silencing Team NV-1715-1801
Ship Silencing Team Analyst NV-1715-1801

Technical
Cryptologic Technician (Technical), Class A NV-1715-1642
Mobile System Technical Data Facility Operator NV-1402-0179
Mobile Systems Technical Data Facility/SIGINT Classification of Recognized Emitters Maintenance NV-1402-0181

Technician
Cryptologic Technician Administrative, Class NV-1715-1876
Electronics Technician Communications Strand, Class A NV-1715-1863
Electronics Technician Radar Strand Class A NV-1715-1864
Network Security and Vulnerabilities Technician NV-1402-0251
Tactical Support Communications Maintenance Technician NV-1715-1533
Trident 1 Fire Control Technician To Missile Technician Conversion NV-1715-1805
Trident Fire Control Technician Maintenance NV-1715-1844

Technology
Advanced Technology NV-1715-1641
Electronic Technology, Class A1 NV-1715-1252
NV-1715-1254
Electronic Warfare Advanced Technology NV-1715-1641
Electronic Warfare Electronic Technology NV-1715-1658

Telecommunications
Automated Telecommunications Systems Technician, Class C7 NV-1408-0030
Telecommunications Operations Specialist NV-1715-1244

Telegraph
AN/UCC-1 Series Telegraph Terminal Maintenance (Electronics Technician, Class C1) NV-1715-0009
AN/VCC-2, AN/VRC-46, and AN/SRA-60 Telephone-Telegraph Communication System NV-1715-0249

Telemetric
AN/AKT-22(V) Telemetric Data Transmitting Set Intermediate Maintenance NV-1715-1573

Telephone
AN/VCC-2, AN/VRC-46, and AN/SRA-60 Telephone-Telegraph Communication System NV-1715-0249
AN/WTC-3(V) AT&T Dimension 2000 PBX Telephone System, Class C1 NV-1715-1604
Dynalec 200/700 Line Automatic Telephone Maintenance NV-1404-0010
Telephone Dial-X System Combined Maintenance NV-1715-1009

Teleprinter
AN/UGC-143A(V) Navy Standard Teleprinter Maintenance NV-1715-1610

Teletype
Model 28 Automatic Send Receive Teletype Maintenance NV-1715-0662
Submarine Digital Teletype Combined Maintenance NV-1404-0011
Teletype Maintenance, Class C, Low Level Keying Teletype Maintenance NV-1715-0663

Teletypewriter
AN/UGC-20/25 Teletypewriter Set Maintenance NV-1715-0090
AN/UGC-20A/25A Teletypewriter Set Maintenance NV-1715-0090
Teletypewriter AN/UGC-20B/25 Combined Maintenance NV-1715-0090
TT-264/AG Teletypewriter Group Intermediate Maintenance NV-1715-0666

Television
AN/SXQ-8(V)2 Secure Closed Circuit Television System Maintenance NV-1709-0021
CV Air Operations Closed Circuit Television (ILARTS) Maintenance NV-1715-1229
Integrated Launch and Recovery Television Surveillance NV-1715-1229
Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance NV-1715-1230

Shipboard Information, Training, and Entertainment Closed Circuit Television (SITE) NV-1715-1230

Temperature

Common Alarm, Temperature Monitoring and Salinity Systems Equipment Maintenance NV-1715-1306

Tender

Electronics Technician, Class C, SSBN Ship's Inertial Navigation, Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065

Fleet Ballistic Missile (FBM) Tender Navigation Maintenance NV-1715-0065

Fleet Ballistic Missile Tender Navigation Maintenance Computer NV-1715-1402

Fleet Ballistic Missile Tender Navigation Maintenance Ship's Inertial Navigation System NV-1715-0065

Poseidon Mk 3 Reentry System Tender Transfer and Handling NV-2203-0143

Replacement Navigation Tender Technician NV-1715-1123

Trident Mk 4 Reentry System Tender Transfer and Handling NV-2202-0144

Universal Intermediate Level Maintenance (ILM) Tender NV-1715-1406

Tensional

Standard Tensional Replenishment Alongside Methods (STREAM) Operator NV-1710-0112

Terminal

AN/SSQ-29 Data Terminal Set Maintenance-Difference NV-1715-1052

AN/SSW-1 Data Terminal Set Maintenance NV-1715-1053

AN/UCC-1 Series Telegraph Terminal Maintenance (Electronics Technician, Class C1) NV-1715-0009

AN/USQ-36 Data Terminal Set Maintenance NV-1715-1055

AN/USQ-59 Data Terminal Set Maintenance NV-1715-1047

AN/USQ-74 Data Terminal Maintenance NV-1715-1338

AN/USQ-74 Link Data Terminal Maintenance NV-1715-1338

Data Terminal Equipment Maintenance NV-1402-0213

E-2A AN/ACQ-2 and AN/ACQ-2A Data Terminal Sets Intermediate Maintenance NV-1715-0254

Flat Panel Display Terminal Maintenance NV-1402-0139

Force High Level Terminal Data Systems Maintenance Technician NV-1715-1177

Fully Automatic Switching Terminal NV-1715-1110

Integrated Voice Communication System (IVCS) Terminal Maintenance, Class C1 NV-1715-1608

Prototype Ocean Surveillance Terminal User NV-1402-0118

Remote Information Exchange Terminal Operator NV-1409-0009

Terminal Radar Approach Control, Class C1 NV-1704-0244

Terrier

Radar Set AN/SPG-55B Terrier Operation and Maintenance NV-1715-1124

Terrier AN/SPG-55B Mod 9 Radar Maintenance NV-1715-1122

Terrier CG/DDG Standard Missile (ER) Officer Advanced NV-1715-1396

Terrier Guided Missile Launching System (GMLS) Mk 10 Maintenance, Class C1 NV-1715-1083

Terrier Guided Missile Launching System Mk 10 55C5 Solid State Difference NV-1715-1298

Terrier Guided Missile Launching System Mk 10 SSCS NV-1715-1529

Terrier Guided Missile Launching System Mk 10 SSCS Analog Difference NV-1715-1526

Terrier Mk 152 Computer Complex NV-1715-1382

Terrier New Threat Upgrade (NTU) Advanced Officer NV-2202-0140

Terrier Weapons System Missile Fire Control System (MFCS) Mk 76 NV-1715-0443

Terrier Weapons System Mk 76 Mod 8 NV-1715-0658

Terrier Weapons System Mk 76 Mod 9 NV-1715-0443

Terrier Weapons Systems with Digital Fire Control Systems (MFCS Mk 76-6/AFCS) NV-1715-0658

Weapon Direction System (WDS) Mk 14 Terrier Console Operator NV-1715-1239

Test

A-7E AN/ASM-375 Inertial Measurement System Test Set Intermediate Maintenance NV-1715-0146

Aircraft Hydraulic and Pneumatic Component Test Stand (HCT-10) and Limited Aircraft Component Intermediate Maintenance NV-1704-0361

AN/AAD-5A Infrared Line Scanner Set (TARPS) AN/AAM-76 Test Bench Set Intermediate Maintenance NV-1715-1632

AN/AAM-60(V)2 Electro-Optical Systems Test Set Intermediate Maintenance NV-1715-1663

AN/AAM-60(V)6 Electro-Optical Test Set Intermediate NV-1715-1190

AN/ACQ-2/2A Data Communications Systems and Associated Test Set Equipment Intermediate Maintenance NV-1715-0254

AN/ALM-108 Surveillance Receiver Test Station AN/ALQ-99 Surveillance Receivers Intermediate Maintenance NV-1715-0054

AN/ALM-117 Digital Test Station Operator NV-1715-0943

AN/ALM-138, AN/ALM-143, AN/ALM-155 Subassembly Test Console T, S, and C Intermediate Maintenance NV-1715-0956

AN/ALM-163 Digital Module Test Console Intermediate Maintenance NV-1715-0936

AN/ALQ-99 Jamming Transmitters and AN/ALM-107 Countermeasures Test Station Intermediate Maintenance NV-1715-0053

AN/ALQ-99 Jamming Transmitters and AN/ALM-107B Countermeasures Test Station Intermediate Maintenance NV-1715-0053

AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance NV-1715-0052

AN/APM-341(V) Doppler Test Set Intermediate Maintenance NV-1715-0360

AN/APM-375 Mini-SACE Search Radar Test Console AN/APQ-156 and AN/APS-130 Search Radar Systems and MSRTC Tested AN/AAS-33A WRAS Intermediate Maintenance NV-1715-1419

AN/APM-446 Radar Set Test Station Operator/Maintainer Intermediate Maintenance NV-1715-1701

AN/AQM-18(V)1 Thru (V)5 Sonar Computer Recorder Group Test Central and AN/AQM-20 Computer Group Power Systems Test Set Intermediate Maintenance NV-1715-0539

AN/ARM-155-156 TACAN Test Sets and UN/UPM-137A Radar Test Set Calibration/Repair Intermediate Maintenance NV-1715-1562

AN/ASM-33B AN/ASM-122 Portable Module Test (PMT) Intermediate Maintenance NV-1715-1211

AN/ASM-459 Mini-SACE Flight System Test Console Intermediate Maintenance NV-1715-0948 NV-1715-1734

AN/ASM-607(V) (Series) Computer Memory Loader-Verifier Test Set Intermediate Maintenance NV-1402-0202

AN/ASM-686 Night Attack Intermediate Avionics Test Set Operator/Maintenance NV-1402-0201

AN/AVM-11 (V) Head Up Display Test Set Intermediate Maintenance (A-7E) NV-1704-0229

AN/AWM-23 (AN/AWG-9) Radio Frequency Test Station (RFTS) Intermediate Maintenance NV-1715-1635

AN/USM(V) Versatile Avionics Shop Test (VAST) Operator NV-1402-0176

AN/USM-247(V) Versatile Avionic Shop Test (VAST) On Line Intermediate Maintenance NV-1715-1630

AN/USM-402(V) Swept Frequency Measurement (SWFT Cart) Test Set Intermediate Maintenance NV-1715-1208

AN/USM-403 Electrical System Equipment Test Set Intermediate Maintenance NV-1714-0032

AN/USM-403 Hybrid Automatic Test Set (HATS) Operator NV-1715-1193
AN/USM-406C Electronic Equipment Test Set Operation and Intermediate Maintenance Training NV-1715-1727
AN/USM-467 Radar Communication Test Station Operator Intermediate Maintenance NV-1715-1417
AN/USM-467 Radar Communications Test Station Maintainer Intermediate Maintenance NV-1715-1418
AN/USM-467 RADCOM Test Station Intermediate Maintenance Course NV-1715-1213
AN/USM-470(V)1 Aircraft Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance NV-1715-1695
AN/USM-470(V)1 Avionics Test Set Technician Intermediate Maintenance NV-1715-1698
AN/USM-470(V)2 Avionic Test Set Advanced Intermediate Maintenance Activity (IMA) Technician Intermediate Maintenance NV-1715-1693
AN/USM-470(V)2 Avionics Test Set Technician Intermediate Maintenance NV-1715-1700
AN/USM-484 Hybrid Test Station Advanced Intermediate Maintenance Activity (IMA) NV-1715-1696
AN/USM-484 Hybrid Test System/Operator Maintainer Intermediate Maintenance NV-1715-1699
AN/USM-604 Electrical Equipment Test Set Operator/Maintainer Intermediate Maintenance NV-1714-0071
AN/USM-608(V) Inertial Measurement Unit Test Set Operator/Maintainer Intermediate Maintenance NV-1715-1627
Angle Rate Bombing Set (ARBS)/Operational Test Program Set (OTPS) Intermediate Level Maintenance NV-1714-0072
ASA-27 Computer Detector and ASM-76 Test Console Intermediate Maintenance NV-1715-0111
Boiler Water/Feed Water Test and Treatment Instructor Certification NV-1601-0022
Dynamics Alignment Test Set (DATS) Intermediate Maintenance NV-1715-1199
Dynamics Alignment Test Set (DATS) Operator NV-1715-1200
General Purpose Electronic Test Equipment Repair Intermediate Maintenance NV-1715-1494
Inertial Platform Test Station (IPTS) Intermediate Maintenance NV-1715-1207
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems Phases B/D NV-1715-1495
Intermediate Level Calibration of Physical/Dimensional Test and Measuring Systems, Phases B/D NV-1715-1495
KA-99A Camera and Camera Test Set Intermediate Level Maintenance NV-1721-0014
LOX Converter Test Stand/LOX Converter and Stock Keeping Unit (SKU) Repair NV-1704-0437
MA2, MA3 Generator Test Stand Maintainer NV-1712-0042
Mineman Test Set Repair and Maintenance Training NV-1715-1108
Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 2 Advanced Maintenance (Theory) NV-1715-0998
Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance NV-1402-0089
Missile Test and Readiness Equipment Mk 7 Mod 4 Advanced Circuitry NV-1402-0089
OF-17/ARC-105 Antenna Coupler Group and AN/ARM-158 Radio Test Set Intermediate Maintenance NV-1715-1621
OJ-510/ALM Digital Test Bench Intermediate Maintenance NV-1715-1622
OJ-511/ALM Exciter Test Station Intermediate Maintenance NV-1715-1416
OJ-615/ALM Countermeasures Test Console Intermediate Maintenance NV-1715-1421
OJ-621A/AWM-23(V) (AWG-9) Module Test Station (MTS) Intermediate Maintenance NV-1715-1633
Oxygen System Component Test Stand/Oxygen Regulator Repair NV-1704-0436
Semi-Automatic Checkout Equipment (SACE) with INS/AFCS/ADC/UE Test Benches Intermediate Maintenance NV-1715-1205
Subassembly Test Console (SATC) Intermediate Maintenance NV-1715-0956
SUBROC Missile Mk 28 Mod 0 Test Equipment Intermediate Maintenance NV-1715-0795
SUBROC Missile Mk 28 Mod 1 Test Equipment Intermediate Maintenance NV-1715-0795
Torpedo Mk 37 Mods 0, 2, and 3 Test Equipment Intermediate Maintenance NV-1715-0788
Torpedo Mk 37 Mods 2 and 3 Test Equipment Intermediate Maintenance NV-1715-0788
Torpedo Mk 46 Mod 5 Test Equipment Intermediate Maintenance NV-1715-1104
Torpedo Mk 48 Mods 1 and 3 Test Equipment Intermediate Maintenance NV-1715-1106
Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance NV-1715-1354
Variable Configuration Antenna Test System (VCATS) NV-1715-1646

Test Equipment
Basic Electronics Test Equipment NV-1715-1325
Electronic Warfare Support Systems and Test Equipment NV-1715-1652
General Purpose Electronic Test Equipment (GPETE) Field Calibration Activity Operator NV-1715-1782
General Purpose Electronic Test Equipment (GPETE) Fleet Electronic Calibration Laboratory Maintenance NV-1715-1783
General Purpose Electronic Test Equipment Functional and Operational Use NV-1715-1331
Intermediate Level Test Equipment Calibration NV-1715-1496

Testing
Nondestructive Testing of Metals Eddy Current Inspection, Class C1 NV-1724-0008
Nondestructive Testing of Metals Radiographic Inspector NV-1724-0012
Nondestructive Testing of Metals Radiographic Operator NV-1724-0009
Nondestructive Testing of Metals Ultrasonic Shearwave Inspection, Class C1 NV-1724-0005
Nondestructive Testing of Metals Ultrasonic Silver Braze Inspection, Class C1 NV-1724-0004
Nondestructive Testing of Metals Ultrasonic Thickness Inspection, Class C1 NV-1724-0003
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector NV-1724-0006
Nondestructive Testing of Metals, Magnetic Particles, and Liquid Penetrants Operator/Inspector NV-1724-0011
Trident Exterior Communications Subsystem Control Monitoring and Testing Subsystem Maintenance NV-1715-1354

TF-34
TF-34 First Degree Intermediate Maintenance NV-1704-0295

TF30-P-6/408
A-7A/B TF30-P-6/408 Power Plants and Related Systems Organizational Maintenance NV-1704-0135

TF30-P-8
TF30-P-8 Intermediate Maintenance/Complete Engine Repair NV-1704-0016
TF30-P-8/408 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0016

TF30-P-8/408
TF30-P-8/408 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0016

TF41-A-2
TF41-A-2 Engine Intermediate Maintenance/Complete Engine Repair NV-1704-0123

Theory
Advanced Theory and Maintenance I Ship's Inertial Navigation System (SINS) Mk 2 Mods 6/7 NV-1715-1376
Advanced Theory of Ship's Inertial Navigation Systems (SINS) Calibration NV-1715-1374
Guidance System Mk 3 Mod 0 Theory and Maintenance NV-1715-1456
Magnetic Disk File (MDF) Theory and Electrical Maintenance NV-1715-1464
Magnetic Disk File (MDF) Theory and Mechanical Maintenance Fire Control (FC) Mk 88 NV-1715-1484
Magnetic Disk File (MDF), Theory and Electrical Maintenance FCS Mk 98 Mod 0 NV-1402-0140
Magnetic Disk File Theory and Mechanical Maintenance Fire Control System (FCS) Mk 98 Mod 0 NV-1402-0122
Mardan Computer Theory and Maintenance 2 NV-1715-0448
Mardan Computer Theory and Maintenance 1 NV-1715-0447
Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 2 Advanced Maintenance (Theory) NV-1715-0998
Missile Test and Readiness Equipment (MTRE) Mk 7 Mod 4 Advanced Theory and Maintenance NV-1402-0089
Mk 19/27 Advanced Theory and Maintenance NV-1715-1450
Ship's Inertial Navigation System (SINS) Mk 2 Mod 6 Theory and Maintenance II NV-1715-1002
Ship's Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 2 NV-1715-1369
Ship's Inertial Navigation System (SINS) Theory and Analysis NV-1107-0002
Ship's Inertial Navigation System (SINS) Theory and Maintenance 2 NV-1715-1369
Ships Inertial Navigation System (SINS) Mk 2 Mods 6 and 7 Theory and Maintenance 1 NV-1715-1376
Static Control Device Theory NV-1715-1468
Trident Navigation Subsystem Theory NV-1715-1366

Threat
CGN Medium Range Missile System Technician New Threat Upgrade NV-1715-1740
CGN-36 Medium Range Missile System Technician New Threat Upgrade NV-1715-1739
New Threat Upgrade (NTU) Officer NV-1715-1742
Tartar Medium Range Missile System Officer New Threat Upgrade NV-1715-1742
Terrier New Threat Upgrade (NTU) Advanced Officer NV-2202-0140
Weapon Direction System Mk 14 (MR) New Threat Upgrade NV-1402-0240
Weapon Direction System Mk 14 Mod 5 New Threat Upgrade NV-1402-0229

Time
Time Series Acoustic Recall System Maintenance NV-1715-1113

Tomahawk
Armored Box Launcher Tomahawk Weapons System Maintenance NV-1402-0161
Armored Box Launching Tomahawk Weapon System Maintenance Differences and All Up Round Handling NV-1402-0167
Ship Launched Cruise Missile Tomahawk Weapon Control System Operation and Maintenance NV-1402-0156
Tomahawk Missile Intermediate Maintenance NV-1715-1490
Tomahawk Weapons Control System Operator AN/SWG-2 NV-1402-0162
Tomahawk Weapons System DD-963 Class Armored Box Launcher Configuration Operation and Maintenance NV-1402-0160
Vertical Launch Tomahawk Weapon Control System Operator NV-2202-0160

Tool
Builder Tool and Equipment Maintenance NV-1002-0002
Builder Tool and Equipment Maintenance Technician NV-1002-0002
Machine Tool Operator NV-1723-0015

Tools
Underwater Hydraulic Tools NV-1723-0014

Torpedo
Mk 48 Torpedo Basic Maintenance NV-1715-1558
Mk 63 Torpedo Tube Basic Maintenance NV-1715-1225
Torpedo Mk 37 Mods 0, 2, and 3 Intermediate Maintenance NV-1715-0789
Torpedo Mk 37 Mods 0, 2, and 3 Test Equipment Intermediate Maintenance NV-1715-0788
Torpedo Mk 37 Mods 2 and 3 Intermediate Maintenance NV-1715-0789
Torpedo Mk 37 Mods 2 and 3 Test Equipment Intermediate Maintenance NV-1715-0788
Torpedo Mk 46 Mod 5 Intermediate Maintenance NV-1715-1103
Torpedo Mk 46 Mod 5 Test Equipment Intermediate Maintenance NV-1715-1104
Torpedo Mk 48 Advanced Capability (ADCAP) Intermediate Maintenance NV-1715-1493
Torpedo Mk 48 Intermediate Maintenance Activity Supervisor NV-1715-1491
Torpedo Mk 48 Mods 1 and 3 Intermediate Maintenance NV-1715-1105
Torpedo Mk 48 Mods 1 and 3 Test Equipment Intermediate Maintenance NV-1715-1106
Torpedo Technician Advanced NV-1715-1492

Torpedoman's Mate
Torpedoman's Mate, Class A1 NV-1715-1488

TOW
Ground Support Equipment Tow Tractor Charging, Starting and Ignition Systems Intermediate Maintenance NV-1704-0028

Towed
Surveillance Towed Array Sensor System (SURTASS) Shore NV-1715-1499

Towing
Aviation Support Equipment A/S32A-33 Aircraft Towing Tractor Intermediate Maintenance NV-1703-0015

Track
Track Supervisor/Tadil A Track Coordinator (Advanced) NV-2202-0118

Tracking
AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance NV-1715-0052
WDS Mk 14 Communications Tracking Set SYR-1 Maintenance Tartar NV-1715-1266

Tractor
Aviation Support Equipment A/S32A-33 Aircraft Towing Tractor Intermediate Maintenance NV-1703-0015
Ground Support Equipment Tow Tractor Charging, Starting and Ignition Systems Intermediate Maintenance NV-1704-0028

Trainer
AW/SQQ 89(V)-T Onboard Trainer Operator and Administration NV-1715-1780
SQQ-89(V) On-Board Trainer Operator and Administration NV-1715-1780

Training
Landing Craft Air Cushion Crew Training (Craftmaster/Engineer) NV-1708-0001
Leadership and Management Education and Training (LMET) for Chief Petty Officers NV-1717-0015

Leadership and Management Education and Training (LMET) For Leading Chief Petty Officers
NV-1717-0015
Leadership and Management Education and Training (LMET) for Leading Petty Officers
NV-1717-0014
Reserve Swimmer Instructor Training, Class P
NV-1406-0033
Ship's Information, Training and Entertainment (SITE II) Closed Circuit Television Maintenance
NV-1715-1230
Shipboard Information, Training, and Entertainment (SITE)
NV-1715-1230
Training Materials Development System (TMDS) Curriculum Developer
NV-1406-0022

TRAM
A-6E TRAM Weapons System Technician Organizational Maintenance
NV-1715-0942

Transceiver
AN/ARC-159(V) Transceiver and Associated Equipment Intermediate Maintenance
NV-1715-1726
AN/SRC-16, AN/SRC-13 Transceiver Maintenance Differences
NV-1715-1058
AN/SRC-23 HF Transceiver AN/SRA-34 Coupler Maintenance
NV-1715-1050
AN/SRC-31 A/B UHF Transceiver and CU-1559 Coupler Maintenance
NV-1715-1051
AN/URC-85 UHF Transceiver Maintenance
NV-1715-1054
AN/VRC-46 and RT-46 Transceiver System Maintenance
NV-1715-0249

Transfer
Cargo Offload and Discharge System/Container Offloading and Transfer Systems (COLD/COTS)
NV-1731-0004
Poseidon Mk 3 Reentry System Tender Transfer and Handling
NV-2203-0143
Trident Mk 4 Reentry System Tender Transfer and Handling
NV-2202-0144

Transmission
Aviation Support Equipment Automatic Transmission Intermediate Maintenance
NV-1703-0010

Transmitter
AN/AQA-7(V) 1, 2 and 3 Sonar Computer Recorder Group and AN/ASA-76 Generator-Transmitter Group Intermediate Maintenance
NV-1715-0774
AN/AQA-7A(V)10, 11, 12 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance
NV-1715-1567
AN/AQA-7A(V)8 Sonar Computer-Recorder Group and AN/ASA-76A Generator Transmitter Group Intermediate Maintenance
NV-1715-1566
AN/ARC-131 Receiver Transmitter Intermediate Maintenance
NV-1715-1722
AN/URT-23 Radio Transmitter Set With AN/URA-38 Antenna Coupler Maintenance (Electronics Technician, Class C1)
NV-1715-0056
AN/VRC-46 Radio Transmitter Set
NV-1715-1598
E-2 Search Radar Set (Transmitter) Intermediate Maintenance
NV-1715-1518
Relay Transmitter Mk 60 Maintenance
NV-1715-0389
Relay Transmitter Mk 60 Mod 0 Maintenance UFCG Mk 114 Mods 9-12
NV-1715-0389
RT-541/ASQ Receiver/Transmitter and KY-309/ASQ Pulse Decoder and RT-547/ASQ-19 Receiver/Transmitter and KY-312/ASQ-19 Pulse Decoder Intermediate Maintenance
NV-1715-0797
RT-542/ASQ, RT-546/ASQ-19, AN/ARC-52 Receiver Transmitter Intermediate Maintenance
NV-1715-1218
RT-648/ARC-94 RT-698/ARC-102 High Frequency Transmitter Intermediate Maintenance
NV-1715-1724

Transmitters
AN/ALQ-99 Jamming Transmitters and AN/ALM-107 Countermeasures Test Station Intermediate Maintenance
NV-1715-0053
AN/ALQ-99 Jamming Transmitters and AN/ALM-107B Countermeasures Test Station Intermediate Maintenance
NV-1715-0053
AN/ALQ-99 Jamming Transmitters Intermediate Maintenance
NV-1715-1615
AN/FRT-83, 84 and 85 Radio Transmitters Maintenance, Class C1
NV-1715-0325
AN/FRT-83, 84, 85 Radio Transmitters with the AN/FSO-98 Remote Control System
NV-1715-1528

Transmitting
AN/AKT-22(V) Telemetric Data Transmitting Set Intermediate Maintenance
NV-1715-1573
AN/URT-23(V) Radio Transmitting Set and AN/URA-38 Antenna Coupler Maintenance, Class C
NV-1715-0056

Transplantation
Transplantation Technician Training
NV-0702-0010

Transponder
AN/APX-100(V) Transponder Intermediate Maintenance
NV-1715-1570
AN/APX-72 Series IFF Transponder System Maintenance
NV-1715-0811

Transport
AT 1161 X 42640 Miltope Magnetic Tape Transport Unit Intermediate Maintenance
NV-1715-1628
ATM13-II Magnetic Tape Transport Unit (MTTU) Intermediate Maintenance
NV-1715-1629
OA-9008 Magnetic Tape Control Unit and Magnetic Tape Transport
NV-1715-1033

Transporter
Aviation Support Equipment LHA-1 Pallet Transporter Intermediate Maintenance
NV-1703-0017

Travel
Disbursing Clerk Travel Payments
NV-1408-0002
Disbursing Clerk, Class C (Travel Payments)
NV-1408-0002

Treadwell
Treadwell Oxygen Generator Operation/Maintenance 6L16
NV-1601-0018

Treatment
Boiler Water/Feed Water Test and Treatment Instructor Certification
NV-1601-0022
Heat Treatment of Metals
NV-1724-0014

Trident
Poseidon Trident 1 Backfit Intermediate Level Fire Control Technician FCS 88 Mod 1/2
NV-1715-1129
Strategic Weapon System Officer Trident 1
NV-2202-0138
Strategic Weapons System Assistant Weapons Officer (AWEPS) Trident 1 Backfit
NV-2202-0139
Trident (ECS) Electronics Command and Control System Technician Conversion
NV-1715-1362
Trident 1 Backfit Missile Technician (MT) Replacement
NV-1715-1135
Trident 1 Backfit Strategic Weapon Systems Command Replacement
NV-1715-1398
Trident 1 Central Navigation Computer (CNC) Equipment Replacement
NV-1715-1373
Trident 1 Fire Control Technician Replacement
NV-1715-1377
Trident 1 Fire Control Technician To Missile Technician Conversion
NV-1715-1805
Trident 1 Missile Technician Conversion
NV-1715-1378
NV-1715-1806
Trident 1 Missile Technician Replacement
NV-1715-1807
Trident 1 Navigation Subsystems
NV-1715-1372
Trident 1 Navigational Aids/Electrostatic ally Supported Gyro Monitor (ESGM) Equipment
NV-1715-1800
Trident 1 Ship's Inertial Navigation System (SINS) Equipment
NV-1715-1379
Trident 2 Fire Control Technician To Missile Technician Conversion
NV-1715-1835
Trident 2 Missile Technician Conversion
NV-1715-1834
Trident 2 Missile Technician Replacement
NV-1715-1833
Trident Central Navigation Computer Technician Replacement
NV-1715-1381

Trident Command and Control System (CCS) Electronics Technician Conversion NV-1715-1364
Trident Command and Control System Level 1 NV-1402-0135
Trident Command and Control System Level 2 NV-1402-0136
Trident Common Navigation Technician Conversion NV-1715-1797
Trident Countermeasures O/M NV-1704-0275
Trident Defensive Weapons Ordnance Subsystem and Maintenance NV-1704-0427
Trident Defensive Weapons Ordnance Subsystem O/M NV-1704-0276
Trident Defensive Weapons Subsystem/Command Subsystem (DWS/CS) Level 1 NV-1402-0123
Trident Defensive Weapons Subsystem/Command Subsystem Level 2 NV-1402-0087
Trident Defensive Weapons Subsystem/Command Subsystem Level 3 NV-1402-0088
Trident Diesel Engine Supervisor NV-1712-0029
Trident Electrostatically Supported Gyro Monitor (ESGM) NAVAIDS Technician Replacements NV-1715-1371
Trident Electrostatically Supported Gyro Monitor (ESGM) Navigation Aids Technician Replacement NV-1715-1370
Trident Exterior Communication System High Frequency/Ultra High Frequency (HF/UHF) Subsystem Basic Maintenance NV-1715-1359
Trident Exterior Communication System, Level 1 NV-1715-1361
Trident Exterior Communications Operator NV-1715-1808
Trident Exterior Communications Subsystem Advanced Maintenance, Level 3 NV-1715-1360
Trident Exterior Communications Subsystem Antenna/Antenna Interface Subsystem Basic Maintenance NV-1715-1810
Trident Exterior Communications Subsystem Control Monitoring and Testing Subsystem Maintenance NV-1715-1354
Trident Exterior Communications Subsystem Level 1 Operator NV-1715-1808
Trident Exterior Communications Subsystem Support Subsystem Basic Maintenance NV-1715-1809
Trident Exterior Communications Subsystem Very Low Frequency/Low Frequency (VLF/LF) Subsystem Basic Maintenance NV-1715-1355
Trident Exterior Communications Subsystems Maintenance Technician NV-1715-1798
Trident Exterior Communications System (ECS) AN/UYY-20X(V) Data Processing Set/Control, Monitor and Test Subsystem Maintenance NV-1715-1354
Trident Exterior Communications System (ECS) Antennas/Antenna Interface System NV-1715-1358
Trident Exterior Communications System (ECS) Data Switching Subsystem Basic Maintenance NV-1715-1356
Trident Exterior Communications System (ECS) Level 2 Basic Maintenance NV-1715-1353
Trident Exterior Communications System (ECS) Level 2 VLF/LF Subsystem NV-1715-1355
Trident Exterior Communications System (ECS) Support Subsystem Basic Maintenance NV-1715-1357
Trident Exterior Communications System (ECS), Level 2 HF/VHF NV-1715-1359
Trident Fire Control Technician Basic Operations NV-1715-1799
Trident Fire Control Technician Maintenance NV-1715-1844
Trident High Pressure and Low Pressure Air Compressor and Dehydrator Advanced Maintenance NV-1704-0428
Trident Missile Technician Replacement NV-1715-1170
Trident Mk 4 Reentry System Tender Transfer and Handling NV-2202-0144
Trident Navigation Subsystem Theory NV-1715-1366
Trident Pneumatic Subsystem Maintenance NV-1704-0317
Trident Refrigeration Systems Supervisor NV-1701-0011
Trident Ship Control and Atmosphere Support Technician Level 1 NV-1715-1309
Trident Ship Control and Atmosphere Support Technician Level 2 NV-1715-1172
Trident Ship Control and Atmosphere Support Technician Level 3 NV-1715-1173
Trident Ship's Control Level 2 NV-1715-1172
Trident Ship's Control Level 3 NV-1715-1173
Trident Sonar Advanced Operator NV-2202-0136
Trident Sonar Subsystem Operation and Maintenance Level 2 NV-1715-1315
Trident Sonar Subsystem Operation and Maintenance Level 3 NV-1715-1314
Trident Sonar Subsystem Operation and Maintenance Level 1 NV-1715-1313
Trident Sonar Supervisor NV-2202-0137
Trident Sonar Technician Submarine (STS) Consolidated Maintenance NV-1715-1811
Trident Submarine Atmospheric Support System Maintenance NV-1731-0001
Trident Submarine Auxiliary Equipment Technician Level 2 NV-1704-0318
Trident Submarine Auxiliary Equipment Technician Level 3 NV-1712-0030
Trident Submarine Auxiliary Equipment Technician Replacement Level 1 NV-1732-0016
Trident Submarine Diesel Engine Maintenance NV-1712-0028
Trident Submarine Hydraulic Combined Maintenance NV-1704-0316

Trim
Steering/Diving Ship's Control Station and Variable Ballast and Trim Electrical Maintenance NV-1715-1312

Truck
Aviation Support Equipment A/S 32P-16 Fire Fighting Truck Intermediate Maintenance NV-1703-0016

Trucks
Aviation Support Equipment Diesel Engine Driven Fork Lift Trucks Intermediate Maintenance NV-1710-0136

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AN/ALQ-99 Tracking Receivers Control Modulators, Exciters with AN/ALM-109C Tracking Receiver Test Station and TS 3517/ALM RF Oscillator Rom Linearizer Test Set Intermediate Maintenance NV-1715-0052

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TS-2109/ASA-48 Semi-Automatic Checkout Equipment (SACE) Programmer Intermediate Maintenance NV-1715-1206
TS-2109/OA-3739/OA-ASA 48 Semi-Automatic Checkout Equipment (SACE) Operator Intermediate Maintenance NV-1715-1209
TS-2109/OA-3742/OA-6672 Semi-Automatic Checkout Equipment (SACE) Intermediate Operators NV-1715-1216

TSEC/KY-65A/75A
TSEC/KY-65A/75A AN/USC-43 Advanced Narrowband Digital Voice Terminal Limited Maintenance NV-1715-1342

TT-264/AG
TT-264/AG Teletypewriter Group Intermediate Maintenance NV-1715-0666

Tube
Missile Tube Support Equipment (Mechanical) NV-1710-0107
Mk 63 Torpedo Tube Basic Maintenance NV-1715-1225

Turbine
Auxiliary Machinery Turbine Maintenance NV-1704-0321
Auxiliary Turbine Maintenance NV-1704-0321
DD-963 PCO/PXO Gas Turbine Engineering NV-1601-0024

DD-963 Ship Service Gas Turbine Generator Set Operator and Waste Heat Boiler Operator NV-1601-0025
FFG-7 PCO/PXO Gas Turbine Engineering NV-1601-0023
Gas Turbine Electrical Maintenance (FFG-7) NV-1715-1717
Gas Turbine Electrical Maintenance DD-963/DDG-993/CG-47 NV-1715-1716
Gas Turbine Electrical Maintenance DDG-51/AOE-6, Class C NV-1710-0162
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Gas Turbine Electrical, Class A NV-1710-0102
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Gas Turbine Hot Plant, Class A NV-1710-0121
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Gas Turbine System Technician (GS) Advanced Hot Plant NV-1710-0146
Gas Turbine System Technician (GS) Advanced Hot Plant GL-7 Strand NV-1710-0144
Gas Turbine System Technician Advanced Operator (DD-963/DDG-993/CG-47) NV-1710-0142
Gas Turbine System Technician Advanced Operator (FFG-7) NV-1710-0143
Gas Turbine System Technician, Class A, Hot Plant NV-1710-0145
Gas Turbine Systems (Mechanical), Class C NV-1710-0143 NV-1710-0147
Gas Turbine Systems Technician Electrical, Class A1 NV-1714-0024
GTCP95-2 and GTCP95-3 Gas Turbine Engine Intermediate Maintenance NV-1710-0138
Marine Gas Turbine Inspector Training and Certification NV-1710-0161
Model 104 Gas Turbine Generator Set Maintenance NV-1703-0009
Ship's Service Gas Turbine Generator Module (Allison 501) Maintenance, Class C1 NV-1703-0009
Solar T-1020S-100B Gas Turbine Generator Set Operator and Maintenance NV-1710-0095

Turbo
Ship's Service Turbo Generator Maintenance NV-1704-0320
Ship's Service Turbo-Generator Maintenance NV-1704-0320

Turbojet
Aviation Machinist Mate Turbojet Fundamentals, Class A1 NV-1704-0432

Turboprop
Aviation Machinist Mate Turboprop Fundamentals Strand, Class A1 NV-1704-0431

Turret
Turret Lathes and Metal Build-Up, Class C1 NV-1736-0006
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Twin
3"/50 Rapid Gun Fire Twin Mount Power Drive and Gun NV-1715-1535

U-1700
U-1700 Maintenance NV-1715-0726

UD-282
Aviation Support Equipment UD-282 and Detroit Series 53 Diesel Engines Intermediate Maintenance NV-1712-0021

UH-1N
UH-1N Communication/Navigation Systems Organizational Maintenance NV-1704-0274
UH-1N Electrical/Instrument Systems Organizational Maintenance NV-1704-0273

UHF
AN/ARC-143, AN/ARC-143A, and AN/ARC-143B UHF Radio Set Intermediate Maintenance NV-1715-1576
AN/SRC-31 A/B UHF Transceiver and CU-1559 Coupler Maintenance NV-1715-1051
AN/URC-85 UHF Transceiver Maintenance NV-1715-1054
AN/WSC-3 UHF Defense Assigned Multiple Access (DAMA) Communication Set Maintenance NV-1715-1776

UHF/HF
TACAMO UHF/HF Communications System Intermediate Maintenance NV-1715-1184

Ultrasonic
Nondestructive Testing of Metals Ultrasonic Shearwave Inspection, Class C1 NV-1724-0005
Nondestructive Testing of Metals Ultrasonic Silver Braze Inspection, Class C1 NV-1724-0004
Nondestructive Testing of Metals Ultrasonic Thickness Inspection, Class C1 NV-1724-0003
Ultrasonic Shearwave Inspector NV-1710-0148
Ultrasonic/Eddy Current Inspector NV-1724-0013

UN/UPM-137A
AN/ARM-155-156 TACAN Test Sets and UN/UPM-137A Radar Test Set Calibration/Repair Intermediate Maintenance NV-1715-1562

UNCRYPT
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) Common Core Maintenance NV-1402-0177
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
UNCRYPT PDP-11 Maintenance NV-1402-0177
Universal Cryptologic Processor Training (UNCRYPT) Flaghoist VAX Maintenance NV-1402-0193
Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C NV-1402-0110
Universal Cryptologic Processor Training (UNCRYPT) RSX/VMS FORTRAN NV-1715-1684

Underwater
Basic Underwater Demolition/SEAL Training NV-0804-0001
Dewey Underwater Log Combined Maintenance NV-1715-1012
Dewey Underwater Log Maintenance, Class C1 NV-1715-1042
Mk 116 MOD 4 Underwater Fire Control System (FCS) Maintenance NV-1715-0268
Special Warfare Mk 15 Underwater Breathing Apparatus NV-0709-0023
Underwater Fire Control Group Mk 111 Maintenance NV-1715-0119
Underwater Fire Control Group Mk 114 Maintenance NV-1715-0133
Underwater Fire Control Mk 116/4 Operator and Maintenance, Class C NV-1715-1854
Underwater Fire Control System Mk 116/7 Antisubmarine Control System Maintenance/Operator NV-1715-1848
Underwater Fire Control, Class A NV-1715-1473
Underwater Hydraulic Tools NV-1723-0014
Underwater Mine Mk 60 (CAPTOR) NV-2202-0106

Underway
AN/SLQ-32(V) Presail/Underway Operations NV-1715-1144
Underway Replenishment Mechanical and Hydraulic Component Maintenance NV-1710-0113

Uniform
Joint Uniform Military Pay System (JUMPS) Pay Entitlements and Procedures NV-1401-0004

Shipboard Uniform Automated Data Processing System Real Time Operations and Management NV-1402-0149
Uniform Automated Data Processing (ADP) System Stock Points NV-1408-0025

Unit
AN/BQQ-6 Group A Multipurpose Interface Unit Digital Spectrum Analyzer Advanced Maintenance NV-1715-1318
AN/USM-608(V) Inertial Measurement Unit Test Set Operator/Maintainer Intermediate Maintenance NV-1715-1627
AT 1161 X 42640 Miltope Magnetic Tape Transport Unit Intermediate Maintenance NV-1715-1628
ATM13-II Magnetic Tape Transport Unit (MTTU) Intermediate Maintenance NV-1715-1629
Auxiliary Power Unit First Degree Intermediate Maintenance Repair NV-1704-0382
CV-3650/AYA-6C Computer Interface Unit (CIU) Intermediate Maintenance NV-1715-1619
Offshore Petroleum Discharge System Beach Termination Unit (BTU) Operations Technician NV-1601-0038
WR-27 Auxiliary Power Unit Intermediate Maintenance NV-1704-0296

Universal
Cryptologic Technician M Universal Cryptologic Processor Wideband Subsystem Maintenance, Class C NV-1402-0070
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) Common Core Maintenance NV-1402-0177
Cryptologic Technician M, Universal Cryptologic Processor (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
Cryptologic Technician M, Universal Cryptologic Processor Maintenance NV-1402-0069
Cryptologic Technician M, Universal Cryptologic Processor Wideband Subsystem Maintenance, Class C NV-1402-0198
CV-3649/ALQ-99 Universal Exciter Intermediate Maintenance NV-1715-1624
Universal Cryptologic Processor Training (UNCRYPT) Flaghoist VAX Maintenance NV-1402-0193
Universal Cryptologic Processor Training (UNCRYPT) High Frequency Direction Finding (HFDF) Maintenance NV-1402-0112
Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C NV-1402-0110
Universal Cryptologic Processor Training (UNCRYPT) RSX/VMS FORTRAN NV-1715-1684
Universal Cryptologic Processor Training Classic Bowsprit Sail Maintenance NV-1402-0107
Universal Cryptologic Processor Training PDP-11/70 Maintenance NV-1402-0108
Universal Cryptologic Processor Training Shore Cryptologic Support System VAX Maintenance NV-1402-0182
Universal Intermediate Level Maintenance (ILM) Tender NV-1715-1406

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CG/CGN Combat Direction System Upgrade OJ-194A(V)3UYA-4(V) Display Maintenance Technician NV-1402-0222
CG/CGN/DDG CDS Upgrade AN/UYK-43 Computer/Peripheral Maintenance NV-1402-0223
CG/GGN Combat Direction System Upgrade AN/UYK-43 Computer/Peripheral Maintenance Technician NV-1402-0223
CG/GGN/DD-993 Combat Direction System Upgrade OJ-194A(V)3/UYA-4(V) Display Maintenance Technician NV-1402-0222
Mk 68 Mod 19 Digital Upgrade (DU) Gun Fire Control System (GFCS) Maintenance NV-1715-1708
Ocean Surveillance Information System (OSIS) Baseline Upgrade Computer User NV-1402-0117
Ocean Surveillance Information System (OSIS) Baseline Upgrade System Management NV-1402-0119
Terrier New Threat Upgrade (NTU) Advanced Officer NV-2202-0140
Weapon Direction System Mk 14 Mod 5 New Threat Upgrade NV-1402-0229

Urology
Urology Technician NV-0702-0011
Urology Technician, Class C NV-0702-0011

Utilities
S-3A Environmental Control, Miscellaneous Utilities and Egress Systems Organizational Maintenance NV-1730-0007

Utilitiesman
Utilitiesman Advanced NV-1710-0132
Utilitiesman Shore Based Boiler Controls Technician, Class C NV-1710-0133
Utilitiesman, Class A NV-1732-0020

Utility
P-3C Air Conditioning, Pressurization, and Utility Systems Organizational Maintenance NV-1701-0015

Valve
Valve and Steam Trap Maintenance NV-1732-0018
Valve Maintenance NV-1732-0018

Vapor
E-2C Vapor Cycle System Integrated Organizational Maintenance NV-1701-0018
Vapor Compression Distiller Maintenance and Operation NV-1601-0028

Variable
Independent Variable-Depth Sonar Hoist AN/SQA-13(V) Maintenance NV-1715-1285
Variable Configuration Antenna Test System (VCATS) NV-1715-1646
Variable Speed Controllers Combined Maintenance NV-1714-0018

VAX
Universal Cryptologic Processor Training Shore Cryptologic Support System VAX Maintenance NV-1402-0182
VAX Systems Maintenance Technician NV-1402-0182

Vehicle
SEAL Delivery Vehicle Electronic Maintenance NV-1715-1560

Verdin
TACAMO VLF Communications and Verdin System Intermediate Maintenance NV-1715-1185
Verdin Integrated Submarine Automated Broadcast Processing System (ISABPS) Shore Communications System Operator NV-0505-0001
Verdin Integrated Submarine Automated Broadcast Processing System Shore Communications System Operator NV-0505-0004

Versatile
AN/USM(V) Versatile Avionics Shop Test (VAST) Operator NV-1402-0176
AN/USM-247(V) Versatile Avionic Shop Test (VAST) On Line Intermediate Maintenance NV-1715-1630

Vertical
AN/AVA-1 Vertical Display Indicator Group Intermediate Maintenance NV-1715-0159
Vertical and Short Take-Off Optical Landing System (VSTOL) NV-1715-1861
Vertical Launch Tomahawk Weapon Control System Operator NV-2202-0160
Vertical Launcher System Mk 41 NV-1715-1407

VHF
AN/ARC-101 VHF Communications System Intermediate Maintenance NV-1715-1015

Vibration
Noise and Vibration Measurement NV-1721-0003
Noise Reduction/Structure Borne Monitoring (Noise and Vibration Monitoring System (NVMS)) NV-1721-0011

Video
AN/UYA-4 Display Maintenance Includes Beacon Video Processor NV-1715-1259

IP-933 Video Display and CV-2434 Analog-Digital Converter Intermediate Maintenance NV-1715-1626

Visual
Nondestructive Testing of Metals Visual, Magnetic Particle and Liquid Penetrants Operator/Inspector NV-1724-0006

VLF
TACAMO VLF Communications and Verdin System Intermediate Maintenance NV-1715-1185

VLF/LF
Trident Exterior Communications System (ECS) Level 2 VLF/LF Subsystem NV-1715-1355

VMS
Universal Cryptologic Processor Training (UNCRYPT) RSX-11M/VMS FORTRAN, Class C NV-1402-0110

Voice
Integrated Voice Communication System (IVCS) AN/STC-1 NV-1715-1605
Integrated Voice Communication System (IVCS) AN/STC-2(V) Aegis, Maintenance, Class C1 NV-1715-1697
Integrated Voice Communication System (IVCS) Terminal Maintenance, Class C1 NV-1715-1608
Integrated Voice Communication System AN/STC-1 Maintenance NV-1715-1091
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Narrowband Secure Voice Stand Alone Maintenance NV-1715-1100
TSEC/KY-65A/75A AN/USC-43 Advanced Narrowband Digital Voice Terminal Limited Maintenance NV-1715-1342

Volt
ASM-144 On Board Memory Tester Digital Volt Ohmmeter Intermediate Maintenance NV-1715-1210

VQ/VAQ/VMAQ
VQ/VAQ/VMAQ Pilot and EA-3B Navigator Electronic Warfare (EW) Officer NV-1606-0066

Walleye
Walleye 2 Extended Range Data Link Intermediate Maintenance NV-1715-1032

War
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Naval War College Correspondence Course in National Security Decision Making NV-1511-0010
Naval War College Correspondence Course in Strategy and Policy NV-1511-0011
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Warfare
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AN/SQQ-89(V)2 Surface Antisubmarine Warfare (ASW) Combat System Operator, Class C NV-1715-1507
AN/SQQ-89(V)2 Surface Antisubmarine Warfare Combat Systems Operator, Class C NV-1715-1507
Antisubmarine Warfare (ASW) Centers Command and Control System Operator NV-2202-0122
Antisubmarine Warfare (ASW) Evaluator Common Core NV-1715-1509
Antisubmarine Warfare (ASW) Module 4.2 System Operator NV-1402-0165
Antisubmarine Warfare (ASW) Module Acoustic Systems NV-1715-1174
Antisubmarine Warfare (ASW) Module Data Processing Technician NV-1402-0090
Antisubmarine Warfare (ASW) Module Data Systems Technician NV-1402-0091
Antisubmarine Warfare (ASW) Module Operator NV-1715-1234
Antisubmarine Warfare (ASW) Module Watch Officer NV-2202-0128
Antisubmarine Warfare (ASW) Officer NV-1715-1510
Antisubmarine Warfare (ASW) Operations Center (ASWOC) Acoustic System NV-1402-0092
Antisubmarine Warfare (ASW) Operations Center (ASWOC) System Operator, Class C NV-1715-1233
Antisubmarine Warfare (ASW) Operations Center Acoustic Systems Maintenance Technician NV-1402-0158
Antisubmarine Warfare (ASW) Operations Center Data Processing Technician, Class C NV-1715-1238
Antisubmarine Warfare (ASW) Operations Center Data Systems Technician NV-1402-0157
Antisubmarine Warfare (ASW) Operator, Class A1 NV-1715-1436
Antisubmarine Warfare (ASW) Scene of Action NV-2202-0161
Antisubmarine Warfare (ASW) Support Communications Maintenance Technician NV-1715-1175
Antisubmarine Warfare Operations Center (ASWOC) Operations Control Operator NV-2202-0122
Antisubmarine Warfare Operations Center (ASWOC) Watch Officer NV-2202-0116
Antisubmarine Warfare/Tactical Air Controller NV-1715-1849
Aviation Antisubmarine Warfare (ASW) Operator, Class A1 NV-1715-1436
Aviation Electronic Warfare Operator NV-1715-1880
Aviation Electronic Warfare, Receivers, Analyzer, Recorder and Display Intermediate Level Maintenance NV-1715-1149
Aviation Electronics Warfare Fundamentals NV-1715-1146
Aviation Electronics Warfare Intermediate Level Maintenance NV-1715-1149
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Carrier Antisubmarine Warfare (ASW) Module 4.2 Automated Data Processing Operator NV-1402-0166
CV Antisubmarine Warfare (ASW) M Acoustic Systems Maintenance Technician NV-1715-1537
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Joint Military Operations for College of Naval Warfare NV-2202-0132
Mine Warfare Engineman Basic NV-1703-0005
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National Security Decision Making for College of Naval Warfare and Naval Command College NV-1511-0014
Naval Warfare Operations Specialist—Advanced NV-2202-0127
Special Warfare Diving Equipment Maintenance and Repair NV-0804-0002
Special Warfare Mk 15 Underwater Breathing Apparatus NV-0709-0023
Strategy and Policy (College of Naval Warfare/Naval Command College) NV-1511-0012
Strike Warfare Operational Intelligence (OPINTEL) Analyst NV-1606-0067
Surface Warfare Officer Advanced Command NV-1717-0018
Surface Warfare Officer Basic NV-1717-0017
Surface Warfare Officer Department Head NV-1717-0019
Surface Warfare Officer Specialty Course Steam Main Propulsion Assistant NV-1710-0093
Surface Warfare Officers Advanced Executive Command NV-1717-0020
Surface Warfare Split Tour Engineer Officer NV-1717-0016

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E-2C Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1521

E-2C Basic Airborne Early Warning (AEW) Systems Analyst Organizational Maintenance NV-1715-1517

Warrant
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Limited Duty Officer (LDO) and Chief Warrant Officer (CWO) Indoctrination Training NV-1408-0029
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Washer
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Waste
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Watch
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AN/SQQ-89(V)2 Sonar Watch Supervisor NV-1715-1506
Antisubmarine Warfare (ASW) Module Watch Officer NV-2202-0128
Antisubmarine Warfare Operations Center (ASWOC) Watch Officer NV-2202-0116
Electronic Warfare Watch Supervisor Surface NV-1715-1237

Watchstander
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Boiler Water/Feed Water Test and Treatment Instructor Certification NV-1601-0022
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Waukesha
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ASROC Weapons Handling System Maintenance NV-1704-0259
AV-8B Aircraft Communication/Navigation/Identification Electronic Countermeasures/Weapons System Specialist Integrated Organizational Maintenance NV-1704-0399
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Tartar Weapons System Mk 74 Mod 6
NV-1715-1384
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This index is designed to provide access to courses listed in the course exhibit section of this volume. Military course numbers are listed in alphanumeric order. When the official military course number is found, note the exhibit ID number to its right. Locate that number in the proper course exhibit section.

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K-130-1128 NV-1715-1852
K-193-0436 NV-1722-0013

K-201-0028 NV-1404-0013
K-201-2115 NV-2202-0054
K-201-3334 NV-1715-1845
K-210-0529 NV-1715-1505
K-221-0007 NV-2202-0131
K-221-0015 NV-1704-0339
NV-2202-0126
K-221-0027 NV-1715-1542
K-221-0053 NV-2202-0127
K-221-0075 NV-1402-0010
K-221-0092 NV-1715-1236
K-221-0169 NV-1402-0236
K-221-2503 NV-1715-1849
K-233-0022 NV-1715-1334
K-2E-2103 NV-1722-0008
K-2G-0033 NV-2202-0123
K-2G-0040 NV-1601-0039
K-2G-0074 NV-1402-0023
K-2G-0092 NV-2202-0114
K-2G-0439 NV-1601-0036
K-2G-0539 NV-1715-1509

K-3A-0950 NV-1511-0016
K-3A-0954 NV-1606-0074
NV-1606-0085
K-3A-5034 NV-1606-0072

K-431-0024 NV-0804-0001
K-431-0048 NV-1606-0078
K-431-0050 NV-0804-0002
K-431-0082 NV-0709-0023
K-4C-3331 NV-1715-1846

K-651-0109 NV-1710-0022
K-651-2151 NV-1732-0001
K-651-2239 NV-1732-0025
K-652-0230 NV-1712-0034
K-652-0231 NV-1712-0036
K-652-0232 NV-1712-0045
K-652-0237 NV-1731-0002
K-652-0297 NV-1712-0035
K-652-0312 NV-1722-0016
K-652-0314 NV-1731-0003
K-652-0315 NV-1710-0135
K-652-0318 NV-1731-0004
K-652-2146 NV-1704-0264
NV-1704-0419
K-652-2167 NV-1704-0265
K-652-2203 NV-1714-0048
K-652-2204 NV-1715-1287
NV-1715-1786
K-652-2205 NV-1715-1288
K-662-0019 NV-1715-1088
K-670-2152 NV-1715-1089

K-8A-3550 NV-1405-0037

L-102-0020 NV-1715-0903
L-123-0014 NV-1715-1225
L-150-0001 NV-1402-0098
L-150-0002 NV-1715-1226
L-191-0010 NV-1715-1010

L-4H-0026 NV-1732-0011
L-4H-0027 NV-0801-0009

L-662-0013 NV-1715-0898
L-662-0023 NV-1715-0901

L9E NV-1728-0038

N46L92D NV-1728-0037

NAV AIR 00-80V-49 NV-1606-0071

OBS NV-1728-0036

OJA NV-1511-0019

OJB NV-1511-0036

OJJ NV-1511-0018

P-00-1300 NV-2202-0110
P-00-4300 NV-1408-0032
P-00-4307 NV-2202-0109
P-1B-0004 NV-1717-0034
P-1B-0005 NV-1717-0032
P-1B-0006 NV-1717-0033
P-1B-0007 NV-1717-0026

P-500-0020 NV-1717-0027
P-500-0021 NV-1717-0028
P-500-0025 NV-1717-0029

P-7C-0023 NV-1717-0030
P-7C-0039 NV-1717-0031

P-9B-2000 NV-2204-0001
P-9E-1238 NV-1406-0034

Q-050-0500 NV-0803-0013
Q-050-0600 NV-0803-0004
Q-050-0601 NV-1406-0033
Q-050-0604 NV-0803-0003
Q-050-1500 NV-0803-0012
Q-050-1502 NV-1406-0027

Q-4D-2010 NV-1405-0036
Q-4D-2011 NV-1405-0035
Q-4D-2012 NV-1406-0031
Q-4E-0010 NV-1406-0028
Q-4E-0011 NV-1406-0029
Q-4E-0012 NV-1406-0030

Q-5K-0101 NV-1406-0032

Q-9B-0021 NV-2202-0033
Q-9B-0023 NV-1408-0029
Q-9B-0024 NV-2204-0002

R-420-0003 NV-1304-0017
R-420-0004 NV-1304-0018
R-420-0005 NV-1304-0019
R-420-0006 NV-1304-0020

S-101-0172 NV-1715-1357
S-104-0191 NV-1715-1303
S-104-0192 NV-1715-1304
NV-1715-1750
S-104-0210 NV-1715-1748
S-104-0211 NV-1715-1749
S-121-0483 NV-1715-1117
NV-1715-1746
S-121-0547 NV-1715-1751
S-121-0548 NV-1715-1745
S-121-0551 NV-1715-1302
S-150-0238 NV-1715-1301
S-150-0239 NV-1402-0121
S-150-0240 NV-1402-0120
S-150-0273 NV-1715-1747
S-150-0274 NV-1715-1752

S-210-0400 NV-1304-0009
S-210-0401 NV-1304-0010
S-2G-0405 NV-1304-0008

S-501-0001 NV-0801-0010
S-501-0002 NV-0801-0011
S-512-0008 NV-1728-0045
S-512-0009 NV-1728-0028
S-512-0010 NV-1728-0027
NV-1728-0046
S-512-0011 NV-1728-0024
S-512-0012 NV-1728-0025
S-512-0013 NV-1728-0026
S-512-0014 NV-1728-0030
S-512-0015 NV-1728-0047
S-512-0016 NV-1728-0048
S-512-0019 NV-1728-0044
S-5A-0011 NV-1304-0016
S-5F-0013 NV-1728-0043
S-5F-0014 NV-1728-0029

S-8G-0500 NV-1722-0017

X-777-7770 NV-2202-0014
NV-2202-0165

X777-7770 NV-2202-0165

REQUEST FOR COURSE RECOMMENDATION

The applicant for credit must fill out one form for *each* service school course completed. The institutional official is responsible for verifying from official military records that the student completed the entire course, and for submitting the form to The Center for Adult Learning and Educational Credentials, American Council on Education, One Dupont Circle, Washington, DC 20036-1193. ATTN: Military Evaluations. *Please Print.*

1. *Exact* course title *(do not abbreviate)* ______________________________

2. Service branch offering the course:
   - ☐ Air Force
   - ☐ Army
   - ☐ Coast Guard
   - ☐ Department of Defense
   - ☐ Marine Corps
   - ☐ Navy

3. Name of service school attended: ______________________________

4. Location (installation, state): ______________________________

5. Length of course *(in weeks)*: ______________________________

6. Dates of attendance: From: ____________ day/month/year To: ____________ day/month/year

7. Official military course number: ______________________________

8. MOS/AFSC/Rating: ______________________________

9. Course was designed for:
   - ☐ Warrant Officers
   - ☐ Officer Candidates
   - ☐ Commissioned Officers
   - ☐ Enlisted Personnel
   - ☐ Aviation Cadets
   - ☐ Noncommissioned Officers

10. Rank or rating upon completion of the course: ______________________________

11. Please give some indication of subjects studied in course:

____

____

NAME OF STUDENT ______________________________

____

DO NOT WRITE IN THIS SPACE
STAFF USE

SIGNATURE OF COLLEGE OFFICIAL ______________________________

NAME OF COLLEGE OFFICIAL ______________________________

TITLE ______________________________

INSTITUTION ______________________________

STREET ______________________________

CITY STATE ZIP CODE ______________________________

AREA CODE NUMBER EXT. ______________________________

REQUEST FOR NAVY GENERAL RATE, RATING, WARRANT OFFICER, AND LIMITED DUTY OFFICER EXHIBITS

This form should be used to request rating exhibits from 1/90 to the present that are not found in the *Guide* or the *Handbook*. Clearly mark the rating (e.g. NER-BT-001), the title, and the name of the applicant. Submit the form to The Center for Adult Learning and Educational Credentials, American Council on Education, One Dupont Circle, Washington, DC 20036-1193, Attention Military Evaluations.

Navy Rating	Title Please print; do not abbreviate.	Name of Applicant

DO NOT WRITE IN THIS SPACE
STAFF USE

SIGNATURE OF OFFICIAL

NAME OF OFFICIAL

TITLE

INSTITUTION OR ORGANIZATION

STREET

CITY STATE ZIP CODE

AREA CODE NUMBER EXT.

Please retain file copies of any occupation recommendations received from the Advisory Service.

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